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# CONTENTS OF VOLUME 1

## JANUARY, 1920. NUMBER 1

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two Unusual Cases of Ringworm, One of Them Due to a Fungus (Trichophyton Rosaceum) Producing Pink Cultures. M. B. Hartzell, M.D., Philadelphia</td>
<td>1</td>
</tr>
<tr>
<td>III.—Chronic Papular Itching Eruption of the Axillae and Pubes (Forbyce). Sanford M. Withers, M.D., St. Louis</td>
<td>8</td>
</tr>
<tr>
<td>IV.—Statistical Study of Extragential Chancres. Horace Wray Porter, M.D., St. Louis</td>
<td>15</td>
</tr>
<tr>
<td>Precancerous Dermatoses: The Further Course of Two Cases Previously Reported. John T. Bowen, M.D., Boston</td>
<td>23</td>
</tr>
<tr>
<td>A Clinical Study of Lichen Planus. George D. Culver, M.D., San Francisco</td>
<td>43</td>
</tr>
<tr>
<td>Spore Identification in Scrapings. Rowland W. Bachman, M.D., Allentown, Pa.</td>
<td>50</td>
</tr>
<tr>
<td>Urticaria Probably Due to Syphilis: Clinical Report. Lester Hollander, M.D., Pittsburgh</td>
<td>55</td>
</tr>
<tr>
<td>Universal Exfoliative Dermatits from Sodium Cacodylate. William Allen Pusey, M.D., Chicago</td>
<td>57</td>
</tr>
<tr>
<td>Editorial: Death's Toll Among American Dermatologists</td>
<td>59</td>
</tr>
<tr>
<td>Obituary: Joseph Zeisler, M.D.</td>
<td>61</td>
</tr>
<tr>
<td>Correspondence: Epidermophytosis, “Epidermophytes,” M. B. Hutchins</td>
<td>63</td>
</tr>
<tr>
<td>Abstracts from Current Literature</td>
<td>64</td>
</tr>
<tr>
<td>Society Transactions</td>
<td>80</td>
</tr>
<tr>
<td>Book Review</td>
<td>117</td>
</tr>
</tbody>
</table>

## FEBRUARY, 1920. NUMBER 2

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>V.—Monilia Candida Infection of the Mouth. M. F. Engman, M.D., and R. S. Weiss, M.D., St. Louis</td>
<td>119</td>
</tr>
<tr>
<td>VI.—“Burning Tongue.” M. F. Engman, M.D., St. Louis</td>
<td>137</td>
</tr>
<tr>
<td>Syphilis of the Liver. Udo J. Wile, M.D., Ann Arbor, Mich</td>
<td>139</td>
</tr>
<tr>
<td>Erosive Vulvitis. Thomas Latane Driscoll, M.D., Richmond, Va</td>
<td>170</td>
</tr>
<tr>
<td>The Solar Keratoses and Cutaneous Cancer. James N. McCoy, M.D., Vincennes, Ind</td>
<td>175</td>
</tr>
<tr>
<td>Dermatologic Misnomers. Moses Scholtz, M.D., Los Angeles</td>
<td>182</td>
</tr>
<tr>
<td>Obituary: Henry Weightman Stelwagon</td>
<td>191</td>
</tr>
<tr>
<td>Correspondence</td>
<td>194</td>
</tr>
<tr>
<td>Abstracts from Current Literature</td>
<td>201</td>
</tr>
<tr>
<td>Society Transactions</td>
<td>215</td>
</tr>
<tr>
<td>Book Review</td>
<td>230</td>
</tr>
<tr>
<td>Index to Current Literature</td>
<td>231</td>
</tr>
</tbody>
</table>

## MARCH, 1920. NUMBER 3

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurotic Excoriations. George M. MacKee, M.D., New York</td>
<td>256</td>
</tr>
<tr>
<td>Neurotic Excoriations with Report of Cases. William A. Pusey, M.D., and Francis E. Seneor, M.D., Chicago</td>
<td>270</td>
</tr>
<tr>
<td>Veneroid Ulcer. George M. Olson, M.D., Minneapolis</td>
<td>279</td>
</tr>
<tr>
<td>Report of Two Cases of Hemorrhagic Sarcoma (Kaposi). The First Complicated with Lymphatic Leukemia. Harold N. The F.D., and Edward S. Crump, M.D., Cleveland</td>
<td>283</td>
</tr>
<tr>
<td>VII.—Camphor Oil Tumors. William H. Mook, M.D., and William G. Wander, M.D., St. Louis</td>
<td>304</td>
</tr>
</tbody>
</table>
CONTENTS OF VOLUME 1

MARCH—Continued

Abstracts from Current Literature ........................................ 319
Society Transactions .................................................................. 328
Index to Current Literature ...................................................... 361

APRIL, 1920. NUMBER 4

Cultural Studies on an Infection of the Skin by Endomyces Albicans. Fred W. Tanner, Ph.D., and Bertram Feuer, M.S., Urbana, Ill. ............ 365
 VIII.—A Peculiar Fungus Infection of the Skin (Soorfizie?). Martin F. Engman, M.D., St. Louis .................................................. 370
 Necropsy Findings in a Case of Congenital Scleroderma and Sclero- bactyilia. Fred D. Weidman, M.D., Philadelphia ....................... 5
 Congenital Ectodermal Defect, with Report of Case. W. H. Goekerk- man, M.D., Rochester, Minn. ................................................. 396
 Syphilis of the Kidney, Ureter and Suprarenal. Udo J. Wile, M.D., Ann Arbor, Mich. .......................................................... 413
 Saturation in Roentgen Therapy: Its Estimation and Maintenance. Lyle B. Kingery, M.D., Ann Arbor, Mich. ................................. 423
 Treatment of Chancroid with the High Frequency Vacuum Electrode and Copper Sulphate Solution. Louis H. Jacob, M.D., Philadelphia 434
 A Case of Acquired Circumscribed Hyperhidrosis. William Allen Pusey, M.D., Chicago ......................................................... 438
 Editorial: The Need for the Study of Ringworm in America .......... 440
 Correspondence: "Dermatologic Misnomers." George Henry Fox .... 443
 Abstracts from Current Literature ............................................ 446
 Society Transactions .................................................................. 456
 Index to Current Literature ...................................................... 486

MAY, 1920. NUMBER 5

The Pathology of Congenital Syphilis. J. Frank Fraser, M.D., New York ................................................................................. 491
 IX.—Myiasis Dermatosa. W. H. Moor, M.D., St. Louis .................. 515
 Purpura Annularis Telangiectodes (Majocchi's Disease). Ludwig Weiss, M.D., New York ......................................................... 520
 Visceral Syphilis. Udo J. Wile, M.D., Ann Arbor, Mich. ............. 543
 A Practical Method of Roentgen-Ray Dosage Without the Aid of a Radiometer. William D. Witherbee, M.D., and John Remer, M.D., New York ................................................................... 558
 Acrodermatitis Chronica Atrophicans, with Report of Case. Moses Scholtz, M.D., Los Angeles ...................................................... 565
 Obituary: Frederick J. Leiserer ................................................ 572
 Correspondence: TheArsphenamin Treatment of Tuberculosis. John H. Stokes, M.D., Rochester, Minn. ............................................ 573
 Abstracts from Current Literature ............................................ 575
 Society Transactions .................................................................. 588
 Index to Current Literature ...................................................... 618

JUNE, 1920. NUMBER 6

X.—Precancerous Lesions of the Skin of the Vulva; Leukoplakic Vulvitis, Kraurosis, Pruritus. Fred J. Taussig, M.D., St. Louis ...... 621
 Hydrargism from the Application of a Weak Ammoniated Mercury Ointment in the Treatment of Psoriasis. Paul E. Bechet, M.D., New York ........................................................................ 636
 XI.—"Spirochetes" Derived from Red Blood Corpuscles. Frederick Eberhard, Ph.D., St. Louis ............................................... 638
 The Etiology of Eczema. Henry H. Hazen, M.D., Washington, D.C. 642
 XII.—Skin Reactions to Apothexin and Quinin in Susceptible Persons. W. H. Moor, M.D., St. Louis ......................... 651
 Two Unusual Phases of Hepatic Syphilis. Udo J. Wile, M.D., Ann Arbor, Mich. ............................................................... 656
 The Physics of the Roentgen Ray. John S. Shearer, Ph.D., Ithaca, N. Y. .................................................................................... 664
 Obituary: William S. Gotthie ................................................... 681
 Correspondence ........................................................................ 683
 Abstracts from Current Literature ............................................ 685
 Society Transactions .................................................................. 699
 Book Reviews ........................................................................... 748
 Index to Current Literature ...................................................... 750
 Index to Volume 1 ...................................................................... 753
TWO UNUSUAL CASES OF RINGWORM, ONE OF THEM DUE TO A FUNGUS (TRICHO PHYTON ROSACEUM) PRODUCING PINK CULTURES *

M. B. HARTZELL, M.D., LL.D.,
Professor of Dermatology in the University of Pennsylvania

PHILADELPHIA

Although the monumental work of Sabouraud and his followers has thrown a flood of light on the whole subject of ringworm in the past twenty-five years, this light has shone chiefly for the dermatologist and in some instances apparently rather dimly for him. The general practitioner still gropes in Cimmerian darkness; for him ringworm is still nothing more than bald, scaly patches on the scalps of children or scaly rings on the non-hairy surfaces; eczematosid ringworm and the deep inflammatory trichophytoses of animal origin do not exist for him—they are a terra incognita whose borders he has not even seen, let alone entered on. It is only by the persistent reporting the less common forms of the disease that we can hope to teach him that infection by the trichophyton and other nearly related fungi may produce cutaneous diseases with widely varying symptoms presenting none of the clinical features commonly associated with ringworm, and that such infection occasionally produces severe inflammatory symptoms and even, in rare instance, destruction of tissue. It is partly for this reason, but more especially because they present some features of unusual interest to the dermatologist, that the two cases here described are reported.

REPORT OF CASES

Case 1.—In August, 1917, T. B., about 30 years old, a street car conductor in a neighboring city, presented himself at the skin dispensary of the University Hospital for the treatment of an extensive eruption covering almost the entire right deltoid region and a large part of the right half of the trunk. The eruption consisted of numerous papules and nodules varying in size from that of a hemp seed to that of a split pea. They were dark red and for the most part, discrete. They were most abundant about the posterior borders of large, moderately pigmented areas in which were a few scattered nodules and

*Read before the Forty-Second Annual meeting of the American Dermatological Association, held at Atlantic City, N. J., June 16-18, 1919.
small superficial scars and many of them had small blood crusts on their summits. It was quite evident that the disease was slowly extending backward toward the spinal column, the pigmented parts representing areas over which it had already passed. According to the statement of the patient, and as was evident from the excoriated condition of many of the papules, the eruption was attended by severe itching. The patient's first statement as to its duration was that the disease had lasted three years, but further questioning brought out the

Fig. 1 (Case 1).—Unusual form of ringworm.

fact that five years before there had been "little rings" on the chest which, however, gave him little concern; it was only during the past three years that it had spread extensively and caused annoyance. Apart from the excoriations, the eruption as a whole bore considerable resemblance to a slowly spreading superficial nodular syphiloderm for which it might very readily have been mistaken on a superficial examination.
In addition to the affection of the skin, the nails of the index, middle and ring fingers of the right hand presented marked evidence of disease. They were rough and lusterless, with ragged and broken free borders.

In scrapings taken from the skin and the nails an abundance of mycelium presenting the morphological characters of the trichophyton was readily demonstrated.

![Fig. 2 (Case 2).—Unusual form of ringworm due to the Trichophyton rosaceum.](image)

It is greatly to be regretted that the study of this unusual case was limited to its clinical features alone, and that no cultures were made of the organism found. The variety of the trichophyton present must, therefore, remain a matter of uncertainty. So far as my own observations go, the case is wholly unique—I have never seen anything
approaching it in its clinical features, nor have I been able to find, after a considerable search, anything in the literature which at all resembles it.

The second case which I have to report was also observed in a patient of the University Hospital Skin Dispensary and, while less striking clinically than the one just described, was especially interesting because of the feature presented by the cultures of the organism found in it.

Case 2.—F., 28 years old, an Austrian by birth, came under observation in December of last year. He then presented a number of dark red, slightly pigmented round and oval patches, varying in size from that of a coin to that of the hand, situated over the crest of the left ilium, in the pubis, on the buttocks, on the posterior surface of the thighs and in the left popliteal space, this region showing a patch quite as large as the hand. The margins of these patches were decidedly elevated and their surfaces were covered with a scanty, fine, bran-like scale. In addition to these patches there were a number of brownish red nodules the size of shot with a hard dark crust on the summit, scattered about on the posterior surface of the left thigh in the neighborhood of the large popliteal patch. The disease had lasted about eight months and was still extending. He complained of no subjective symptoms of any moment. A diagnosis of syphilis had been made by his former medical adviser, a genitourinary specialist of considerable repute, and three or four injections of arsenphenamin had been given, of course, without any effect on the disease. In scrapings removed from the diseased areas numerous mycelia were readily found presenting the morphology of the trichophyton of which cultures were made to which reference will presently be made. Under strictly local treatment which, as in the former case, consisted of the application of a 2 per cent. solution of salicylic acid in alcohol, the eruption rapidly disappeared, and at the end of three weeks nothing remained but a moderate brown pigmentation. The patient has been under observation for the past six months and there has been no sign of a return of the affection.

Cultural Characteristics

Cultures were made with scrapings taken from the large patch in the popliteal space on a number of mediums; these presented many interesting features. On all the mediums employed the colonies presented one or more elevations in the center which were quite conical in the beginning, but which soon flattened down and became hemispherical. When there was but one central prominence this was surrounded by a pronounced circular furrow. On glucose agar the borders of the colonies presented a finely rayed appearance; on Franz medium the colonies were limited by an elevated bead-like margin from which numerous fine branching tendrils extended. In fully developed colonies the color was a beautiful pink which varied a good deal in its distribution and arrangement according to the medium on which they were grown. On glucose agar the color first appeared in a broad zone surrounding the central prominences and spread thence
to other portions of the surface, but never appeared on the fringe-like border and was much less pronounced in the center. On Franz medium the color was much more uniformly distributed and more pronounced, but in these colonies too the border remained a pure white. The undersurface of the colonies too the border remained a pure white. Dr. F. D. Weidman, the Assistant Director of the Research Laboratory of the Department of Dermatology of the University, to whom I am indebted for the preparation of the cultures, has furnished me with some data concerning the mode of growth and cultural peculiarities of the organism which are here briefly given:

Nine days after implantation a pure white scanty growth began to appear which on the twentieth day began to assume a faint rosy tint which within twenty-four hours became a decided pink. The development of color was at times irregular and uncertain; certain of the colonies, both those on glucose agar and on Franz medium, never developed it, but remained white with a dry powdery surface. The size of the colonies and the rapidity of their growth depended to a considerable degree on the thickness of the nutrient jelly: when this was thin, the growth was slow. Furrowing of the surface of the colonies was only exceptionally observed; in only a single instance were the radial furrows described by Sabouraud and others observed and then only in an old and vigorously growing culture. When the cultures were killed by formalin the color disappeared after a variable period—in one instance it had disappeared completely in nine days, in another only incompletely after five months.

TISSUE SECTIONS

Sections were made of the largest nodule found in the immediate neighborhood of the popliteal patch with the full expectation of finding a follicular trichophytosis, but much to my surprise nothing was found but a well-marked keratosis of the follicle. I am still inclined

Fig. 3.—Mycelia found in scrapings from Case 1. Variety of fungus not determined.
to believe that these nodules were the result of invasion of the follicle by the fungus which had afterward disappeared, but this is conjecture only, since no fungus was found.

**COMMENT**

In 1893, Sabouraud discovered and described a variety of ringworm due to a fungus producing pink cultures to which he gave the name *Trichophyton rosaceum*. He at that time believed the fungus to be identical with one described by Megnin a few years before, found in the favus of fowls. Further study, however, of this organism by Sabouraud, Suis and Suffran convinced them that it was a trichophyton and not an achorion, and therefore distinct from Megnin's fungus, although resembling it closely. According to Sabouraud, the *T. rosaceum* is only rarely a cause of ringworm; he found it only eight times in a total of 800 cases of various dermatomycoses. Since his first account of it, however, cases have been reported by Adamson, Whitfield, Davis and Bolam in England, by Dalla Favera in Italy and by Muijs in Holland. Dalla Favera, studying the varieties of ringworm found in Parma, found it much more frequently than Sabouraud; of a total of 144 cases, six were due to the *T. rosaceum*. It was not limited to the bearded region, but also occurred on the hands and forearms, on the scalp (in two brothers), and, in one instance, it was found in an extensive onychomycosis affecting the fingers and toes. Bolam, whose observations were made in the north of England, saw no less than sixteen cases in the short period of fifteen months. Eight of these were examples of ringworm of the beard, five involved the trunk and extremities coincidently with the beard, and three affected the non-hairy surfaces alone.

**CONCLUSIONS**

From the foregoing it is quite evident that the *T. rosaceum* is a widely distributed organism, and that it may give rise to all the clinical varieties of trichophytosis. In this connection I may say that I am quite in accord wth Dalla Favera when he expresses his belief that it is not possible to establish a correlation between a given form of clinical lesion and a given variety of the trichophyton.

**ABSTRACT OF DISCUSSION**

Dr. Corlett was much interested in Dr. Hartzell's well prepared paper. The subject of trichophytosis had become revolutionized during the time he had been practicing dermatology, thanks to the work done by Sabouraud, Adamson, some members of this Association and others. Various types had been brought to our attention. He had seen cases resembling the photographs passed around by Dr. Hartzell and thought such an eruption might be readily
Fig. 4.—Culture of *Trichophyton rossaceum*. 
mistaken for eczema or other dermatoses. Several years ago his attention was called to the frequency with which trichophyton infection was found between the toes. Dr. L. W. Ladd at that time made cultures and demonstrated that many cases in his clinic were due to the trichophyton and not to eczema as commonly believed.

Dr. Gilchrist said that he had some photographs of an unusual case seen at Johns Hopkins many years ago. The case was that of a man who had had the disease about three months. It appeared first on about the middle portion of the leg, and began as small pustular lesions about the hair follicles. The patch when he saw it was about 3 by 2 inches in size and consisted of a fairly deeply infiltrated lesion around the margin of which were a number of small pustules situated around the hair follicles. Microscopic examination of the hairs from these follicles and also from the more central portion of the disease showed the presence of the ringworm fungus.

On the right side of the neck were a number of small pea to bean sized nodules which looked like "blind boils" but were not painful or inflamed. A number of scars were also present which had resulted from previous similar lesions. Mycelium and spores were found in these nodules, and cultures from two of them showed a purplish fungus in pure culture. He had never seen ringworm lesions present in this form before or since.

Dr. Wise asked Dr. Hartzell and the other members whether they had ever seen cases of disseminated lichenoid trichophytosis, as described by Jadassohn. He had been on the lookout but had not seen one proven case.

Dr. White said that he had seen two or three such cases in the groin.

Dr. Hartzell stated that he had put a question mark after the name of the fungus, because he was not absolutely certain that it was the trichophyton rosaceum. While it corresponded in some respects very accurately to the fungus described by others under that name, the morphological features differed a good deal. That might be due to the medium employed, a difference in the medium producing a great difference in the morphology of the cultures.

Dr. Gilchrist said that bacteriologists had been filtering all their mediums until now, but it had begun to dawn on them that filtering probably kept out some part of the mediums which might prove to be of very important value in the growth of bacteria. He thought now it was not necessary to filter the mediums, and they might get better results by not doing so.
III.—CHRONIC PAPULAR ITCHING ERUPTION OF THE AXILLAE AND PUBES (Fordyce) * 

SANFORD M. WITHERS, M.D. 
ST. LOUIS 

REPORT OF CASES 

Case 1.—The patient, E. S., is a slenderly built girl, aged 13, of French-Irish descent, a pronounced brunette in type. The family history is negative for nervous diseases, syphilis, or conditions such as dyshidrosis in any form. The personal history is likewise negative excepting the statement by the child's mother that the patient has always been nervous and irritable, never playing with the other children. The patient is of about the average mentality considering age and sex. 

The chief complaint is uncontrollable and intense itching about the axillae, breasts, perineum and pubis. 

The pruritus began at the age of 10 (three years previous to admission) in the axillae, which showed no skin lesion at that time aside from that produced by scratching. Medications of various kinds were applied without avail. The condition became so irritating that the child had to be taken from school and restrained. The pruritus was aggravated during warm weather or by any exertion tending to cause perspiration, although there is no history of hyperhidrosis or bromidrosis of the axillae at any time. The occurrence of itching and the inflammatory condition set up by scratching were followed in two or three months by a thickening of the skin with brownish discoloration and small papules in both axillae. 

Within six or eight months after the initial lesion, there was noticed a similar uncontrollable itching about the vulva and the areolae of the breasts. Within the past year there has developed about the vulva and on the abdominal wall above the pubis, a condition similar to that in the axillae. 

Physical Examination.—The child appears to be fairly well nourished and developed, and without gross abnormality. No hair is visible in the axillae, but over the pubis and vulva there is a sparse growth of short, lusterless, dark hair, showing little tendency to curl. In both axillae, particularly, and in the region about the vulva, pubis and areolae of the breasts, the skin is roughened, pinkish in color, overlying a brown discoloration. In all regions mentioned, there are evidences of recent scratching. 

On the abdominal wall above the pubis and in both axillae are shiny, hemispherical, horny papules from 1 to 3 mm. in diameter. These tend to occur in rows following the lines of cleavage of the skin which is pink tinged, thickened and thrown into folds. Some of the larger and older lesions contain black depressed plugs and are capped with hemorrhagic crusts. The more 

*Studies, reports and observations from the dermatological departments of the Barnard Free Skin and Cancer Hospital and the School of Medicine, Washington University. St. Louis, Mo., U. S. A., service of Drs. M. F. Engman and W. H. Mook. 
recent papules are glistening and show a central depressed gray punctum. The central plugs are extracted with difficulty and cause bleeding. No fluid escapes from the papules on applying firm pressure. On careful palpation, prickles of hair broken off at the level of the skin surface are felt as the fingers are moved toward the center of the affected area.

There are seven or eight papules of similar nature about the areolae of the breasts. These are in many respects similar to the hypertrophy of the glands of Montgomery during the first months of pregnancy. There is a darkening of the areola.

The labia majora are flabby, the skin thickened and pigmented. The labia minora are prominent and more darkly pigmented than the labia majora. The hymen is annular and stretched, admitting the tip of the index finger. A competent gynecologist suggested that the patient had practiced masturbation. This was a little too promptly denied by both patient and parent. There is an uncontrollable desire to scratch during the examination.

Further physical examination and biological tests were negative, including the blood Wassermann, blood and urine, except for an erythrocyte count of 3,960,000 with 75 per cent. hemoglobin. The reflexes were questionably hyperactive.

**Histopathology**

The microscopic examination of a section removed from the right axilla exhibits a marked acanthosis, particularly about the sweat ducts, with a dense hyperkeratosis about the mouth of the duct, plugging its base.
orifice and extending into its deeper convolutions. There is an extracellular and intracellular edema with shrinkage of the nuclei seen throughout the prickle-cell layer.

In the papillary and subpapillary layers of the corium there is marked edema and the elastic tissue is so changed that it does not take the usual stains. Keratohyalin débris (homogeneous eosin staining material) fills the deeper coils, distending them to many times their normal size. The spongioplasm of the epithelial lining of the gland takes a bright eosin stain. Many of the cells have completely lost their nuclei with the hyaline degeneration. There is a zone of similar change in the collagenous tissue about the greatly distended gland convolutions accompanied by an infiltration of small round cells and plasma cells. The perivascular round-cell infiltration is marked throughout the entire section.

Fig. 2 (Case 1).—Pubes and suprapubic abdominal wall; glistening papules arranged along the lines of cleavage of the skin; presence of short, straight, dark hair.
Fig. 3 (Case 1).—Low power: the general edematous condition of the section should be noted: moderate acanthosis and hyperkeratosis and distention of the deep coils of the sweat gland.

Fig. 4 (Case 1).—High power: the dilatation of the convolutions and the hyaline degeneration of the epithelial lining may be seen, with keratohyalin débris within the lumen. The round cell infiltration will be noted.
By far the most striking change in the section is the enormous dilatation of the deep convolutions of the sweat gland and the hyaline degeneration of the lining.

The pathologic changes in brief, then, consist of an acanthosis with hyperkeratosis, edema, perivascular infiltration, and changes in the sweat glands with keratocystomata of the sweat glands.

The clinical picture consists of a chronic circumscribed pruritus of the axillae and pubes principally, accompanied by a lichenification with keratocystoma of the deep sweat glands.

This case appears to be a counterpart of the cases previously reported, except in the matter of age incidence, and differs but slightly from them. Haase\(^2\) mentions the occurrence of hyaline degeneration of the arteries of the corium and the finding of round refractile concretions, "the nature of which is obscure," in his report. Neither of these changes was observed in this case. We find that there is a definite change in the elastic fibers about the dilated glands and in the corium.

It would be purely speculative to comment on the etiologic factor in these cases, but from the fact that the pruritus always precedes the skin lesion it would be natural to suppose that the lichenification is the result of the trauma from scratching, since we know that chronic

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irritation (of known etiology) produces a lichenification similar in every respect, except for the keratocystoma of the sweat duct. This may occur on account of the anatomic and physiologic characteristics of the parts.

The question then is: Does the process of lichenification mechanically block the duct of the sweat gland or does the process of occlusion of the duct begin in the gland proper from some toxic or neurogenic disturbance?

The condition was not amenable to local applications; in fact, it steadily grew worse in spite of local and general medication. The patient was put on hygienic and dietetic routine tending to build her up constitutionally and decrease the nervousness. The condition has been improved only by such stabilizing treatment, and as the nervous condition improved, the pruritus disappeared.

Fig. 6 (Case 1).—A markedly distended gland, the duct of which can be traced to a follicle plugged with keratinized debris. Near the dilated coils may be seen a relatively normal sweat gland.

One is forced, then, to take the view suggested by Fordyce, Fox and Haase that this is a chronic circumscribed dermatitis of neurogenic origin.

We submit here also the reports of three more cases of the same character, but unfortunately we did not have the opportunity for histologic study:

Case 2.—Mrs. C., a Jewess, aged 30, was suffering from a condition that began one year previous to her appearance in the clinic, the principal complaint being an inordinate pruritus of the axilla. For this, the patient had consulted various physicians and used home remedies without avail. She was a highly neurotic female, almost hysterical at some of the consultations. The local condition presented exactly the appearance of Case 1, except that the lesions were confined to the axilla. A biopsy was made in this case, the sec-
tion was examined, and notes were made of the findings, but on looking for them for this report they could not be found. Dr. Engman submitted the following notes on the histology of the lesions:

"A hyperkeratosis of the epidermis in almost platelike layers; some thickening of the rete layer due to acanthosis and edema; the same peculiar degeneration of the sweat glands was noticed as in Case 1 only the whole pathology was more marked than that seen in the above case; with this exception, it was the same."

Case 3.—Mrs. J., a Jewish blonde, rather stout, aged 32, was a highly neurotic woman with no children and at times almost hysterical. Her chief complaint was inordinate pruritus in the axillae and pubes. The axillae presented the typical appearance of Case 1, but there were no lesions about the pubes, only an intense pruritus at times. Treatment in this case did not seem to produce much effect on the appearance of the lesions, but a few applications of roentgen rays seemed to relieve the pruritus. An abnormal sexual element in this case was suggestive of an etiologic factor.

Case 4.—Mrs. M., a small, anemic, delicate looking woman of 45, had suffered for several years with pruritus of the axillae, which at times was almost unbearable. The axillae presented the same small, papular, pruritic lesions as seen in this disease. There was no pruritus of the pubes or vulva. The roentgen ray seemed to afford relief.
IV.—STATISTICAL STUDY OF EXTRAGENITAL CHANCRES *

HORACE WRAY PORTER, M.D.
ST. LOUIS

The object of this paper is merely to add to the previous statistics on extragenital chancres, the cases herein enumerated being those seen at the Barnard Free Skin and Cancer Hospital and the Washington University Dispensary. Included in this report for the interest they may add, but not included in the averages because of the factor of uncertainty in personal histories, are the locations of some extragenital lesions as given by patients who were first seen in advanced stages at the former hospital. These patients gave fairly definite histories of the extragenital lesions, but the lesions are listed separately because of the personal equation.

From August, 1905, to August, 1919, 225 patients have presented themselves at the Barnard Hospital dispensary with a chancre as the chief complaint, or with the chancre still in evidence. Of these, fifty-five had extragenital primary sores, giving the rather high percentage of 24.5 per cent., or a percentage over half again as large as the highest percentage quoted by Montgomery¹ in the table below.

TABLE 1.—CASES OF EXTRAGENITAL CHANCRE

<table>
<thead>
<tr>
<th>Physicians Making Report</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Krefting (Christiania)</td>
<td>15.6</td>
</tr>
<tr>
<td>Fournier (Paris)</td>
<td>9.0</td>
</tr>
<tr>
<td>Von Broich, Bonn (Germany)</td>
<td>9.0</td>
</tr>
<tr>
<td>Van Walsen (Amsterdam)</td>
<td>8.5</td>
</tr>
<tr>
<td>Mracek (Vienna)</td>
<td>7.5</td>
</tr>
<tr>
<td>Bulkley (New York)</td>
<td>5.5</td>
</tr>
<tr>
<td>Montgomery (California)</td>
<td>5.5</td>
</tr>
<tr>
<td>Finger (Vienna)</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Recent figures from Sweden give a percentage of over 23 since syphilis has been made a reportable disease.

There are several explanations for our high percentage. The dispensary at the Barnard Hospital has long been used by Dr. M. F. Engman in his special classes of postgraduate students for demonstration purposes, and many of the cases are selected ones from the various other city clinics. Many patients come for a free consultation, as it

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*Studies, reports and observations from the dermatological departments of the Barnard Free Skin and Cancer Hospital and the School of Medicine, Washington University, St. Louis, Mo., U. S. A., service of Drs. M. F. Engman and W. H. Mook.

were, for the confirmatory diagnosis rather than for the initial one. A few patients have come to the Skin and Cancer Hospital who might never have gone elsewhere had they not thought the extragenital lesion to be of a carcinomatous nature. Furthermore, the city of St. Louis maintains a municipal clinic in which early cases are treated free of charge until they have become noninfectious, and this fact is better known by the class who generally need such attention.

EXTRAGENITAL CHANCRES AT THE BARNARD HOSPITAL

Etiology.—Of the etiology, little is known. The clinic is so large that often only incomplete histories can be obtained, and many of the patients have, or say they have, no knowledge of where or how they could have been infected. Only nine patients were able to state the source definitely. Four of the lip chancre patients gave a definite history of having kissed an infected person, and one gave a history of having received a bruised lip in a fist fight with a syphilitic. Both breast cases traced their infection to having nursed babies whom they later found to have hereditary syphilis, the patients having acted in the capacity of wet nurse. The other two were thumb cases. One patient was a midwife, who, while acting in her official capacity, sustained a cut thumb and immediately afterward the umbilical cord was broken, and her hand was covered with the blood. The other, with three chancres on the right thumb, appeared with teeth marks showing at the borders of each of the three lesions, the proof of having been bitten by a man who, he said, bit him purposely to infect him.

Location.—The relative locations of the extragenital lesions coincide with the relative locations of those reported by other writers. They are divided as follows:

<table>
<thead>
<tr>
<th>Location</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lip, upper</td>
<td>9</td>
</tr>
<tr>
<td>Lower</td>
<td>22</td>
</tr>
<tr>
<td>Tongue</td>
<td>6</td>
</tr>
<tr>
<td>Eyelid</td>
<td>2</td>
</tr>
<tr>
<td>Cheek</td>
<td>2</td>
</tr>
<tr>
<td>Angle of Mouth</td>
<td>1</td>
</tr>
<tr>
<td>Nose</td>
<td>1</td>
</tr>
<tr>
<td>Temple</td>
<td>1</td>
</tr>
<tr>
<td>Forehead</td>
<td>1</td>
</tr>
<tr>
<td>Tonsil</td>
<td>1</td>
</tr>
<tr>
<td>Thumb</td>
<td>2</td>
</tr>
<tr>
<td>Breast</td>
<td>2</td>
</tr>
<tr>
<td>Abdomen</td>
<td>2</td>
</tr>
<tr>
<td>Anus</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>

As has been the rule elsewhere, the number of lip chancres predominates. Montgomery gives his maximum percentage, including
four at the angle of the mouth, as "over 49 per cent.,” while our figures show 56.3 per cent. of the total extragenital lesions. Sex did not seem to play such a large part in our cases as it did in other instances where the male, by reason of his greater "social freedom," had the higher percentage. In accordance with other writers, married women lead the percentage in lip chancres with the single male a close second, but of the total thirty-one lip lesions, sixteen males and fifteen females were afflicted.

Our figures also lead Montgomery’s in the frequency of the lower lip lesion, 70.9 per cent, being found here as against his 56.4 per cent. of total lip primaries. In outline, the division is as follows:

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower lip</td>
<td>10</td>
</tr>
<tr>
<td>Upper lip</td>
<td>6</td>
</tr>
<tr>
<td>Married</td>
<td>4</td>
</tr>
<tr>
<td>Single</td>
<td>7</td>
</tr>
<tr>
<td>Status unknown</td>
<td>5</td>
</tr>
</tbody>
</table>

Next to the lip, the tongue shows the greater number of lesions. This can be explained in the same manner as the high percentage of extragenital lesions—i. e., the cases were sent here for a final diagnosis with the provisional diagnosis of cancer of the tongue or else were selected cases for demonstration purposes.

Chancres not located on the head are equally divided, and do not furnish much of interest outside of the locations of two, both in the perineum. One was in a colored girl, single, aged 20, who had a hard chancre superimposed on a hemorrhoid. The other, a white boy, aged 9, was sent here by school authorities with a letter of introduction which asked for a definite report, as they "wanted to punish the guilty parties." He entered the hospital with gonorrhea and a hard chancre which was located at the anus and extended up into the rectum. His father, an ignorant Italian, removed him from the hospital three hours later, and the patient has not been seen since.

Sex.—The principal points as regards the sex of these patients have already been enumerated under the discussion of the lip chancres. The total figures on this subject give thirty-one males and twenty-four females, the percentage being 54.5 and 45.5, respectively. These percentages agree very closely with those of Montgomery who, in computing percentages of 401 cases, finds 56.5 and 43.5 in the two sexes.

Social Status.—The social status of but forty of the patients is available from the records, and of these, 60 per cent. were married and 40 per cent. single. Here again, as in the lip chancre figures, the
Fig. 1.—Chancre of the thumb in an old woman who assisted at the delivery of a neighbor's child. This was first diagnosed by her family physician as cancer of the thumb, possibly because of her age.

Fig. 2.—Unique case of three distinct initial lesions of the thumb.
single male and the married female are in the lead, with twelve single males and ten married males, to four single females and fourteen married females.

Race.—We are here compelled to explain a high percentage, as before, in the high rate of infection of the colored race, namely, 18.1 per cent. of the total extragenital lesions. The hospital is situated at the edge of the colored district in the city proper, and furthermore, the follow-up system of treatment of gynecologic patients of whom a large percentage are colored, brings to light other cases than those of a gynecologic nature. When a negress comes for treatment she usually brings the family and all the neighbors to sit with her while she waits, and they usually think that they might as well be looked at as long as they are here. In spite of the fact that the negro is not supposed to be addicted to kissing in his amours, the cases were nearly all lip chancres.

Age.—It is interesting to note that the majority of infections occurred during the third decade. There were three each before the age of 10 and after the age of 50. From 10 to 20 there were nine; from 20 to 30, twenty-two; from 30 to 40, ten, and from 40 to 50, five. This gives us 73 per cent. occurring between the ages of 16 and 35.

As was mentioned previously there were a few patients who gave a more or less definite history of having had an extragenital primary sore, and these will merely be mentioned with a classification of their locations as they seem to follow out the general rule with regard to their relative location:

<table>
<thead>
<tr>
<th>Location of Chancre</th>
<th>No. of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lip, upper, 3; lower, 5</td>
<td>8</td>
</tr>
<tr>
<td>Cheek</td>
<td>2</td>
</tr>
<tr>
<td>Tongue</td>
<td>1</td>
</tr>
<tr>
<td>Eyelid</td>
<td>1</td>
</tr>
<tr>
<td>Neck</td>
<td>1</td>
</tr>
<tr>
<td>Finger</td>
<td>2</td>
</tr>
<tr>
<td>Abdomen</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

All of the patients were white people; 50 per cent. were in the third decade, and there were nine males to seven females. One of the cheek chancre patients came here from southern Oklahoma for treatment for cancer, but she did not come to this hospital until the "cancer" had cured itself in spite of the treatment of the quack into whose hands she fell. This and one other instance very similar to it on the previous list, bear out the explanation that many patients come here with the lesion diagnosed as cancer. Other than this, and the above tabulation, the sixteen cases have no especial interest.
EXTRAGENITAL CHANCRE AT WASHINGTON UNIVERSITY DISPENSARY

At the Washington University Dispensary there are recorded under the head of "Syphilis, Primary," "Early Syphilis" and "Chancre," 106 cases of chancre, of which twelve are found to be extragenital. These figures are from Sept. 9, 1916, to Aug. 15, 1919. Owing to the enor-

Fig. 3.—Initial lesion on a hemorrhoid.
cases less than half the number seen at the Barnard Skin and Cancer Hospital in fourteen years.

The two thumb cases and one of the lip cases are included in the Barnard Hospital averages as they were sent there from the other dispensary for photographing, dark field examination and smear. They will also be included in the Washington University figures.

The lesions, 11.3 per cent. of the total primary sores seen during the three years, were located as follows:

<table>
<thead>
<tr>
<th>Location</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lip—all lower lip lesions</td>
<td>6</td>
</tr>
<tr>
<td>Thumb</td>
<td>2</td>
</tr>
<tr>
<td>Tonsil</td>
<td>1</td>
</tr>
<tr>
<td>Eyelid</td>
<td>1</td>
</tr>
<tr>
<td>Cheek</td>
<td>1</td>
</tr>
<tr>
<td>Conjunctiva</td>
<td>1</td>
</tr>
<tr>
<td>Tongue</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13</strong></td>
</tr>
</tbody>
</table>

Fig. 4.—Chancre of the nose from picking the nose with an infected finger after libido, a not infrequent mode of infection.

The patients were all white people. The average age was 23, with exactly 50 per cent. in the third decade. Seven were males and five females; eight married and four single, carrying out the general rule of all writers. The histories of these cases are of necessity very brief and nothing of interest is known of their etiology. The total percentage of 11.3 bears out our original statement explaining the high percentage of cases seen as extragenital chancre at the Barnard Hospital, as does also the fact that one fourth of the cases here were seen subsequently at the skin and cancer clinic.
CONCLUSION

In conclusion, it will be remembered that this article was written merely for the purpose of adding to the statistics now existing on extragenital chancre and that the general average is not claimed to be of value in a grand total. We are satisfied in finding that the relative location of the lesions is in accord with all the literature on the subject.
PRECANCEROUS DERMATOSES: THE FURTHER COURSE OF TWO CASES PREVIOUSLY REPORTED

JOHN T. BOWEN, M.D.

BOSTON

The object of this communication is to record briefly the subsequent histories of two of the three cases which I reported in The Journal of Cutaneous Diseases for May, 1912, and December, 1915, under the respective headings: "Precancerous Dermatoses: A Study of Two Cases of Chronic Atypical Epithelial Proliferation"; and "Precancerous Dermatoses: A Sixth Case of a Type Recently Described." The subject was greatly elaborated and clarified by J. Darier in an article in the Annales de dermatologie et de syphiligraphie for August-September, 1914, entitled: "La dermatose précancéreuse de Bowen, dyskératose lenticulaire et en disques," in which is embodied the description of three typical examples of the same affection. Since that time several cases of a similar or allied nature have been referred to, particularly by American writers, which have varied somewhat in their clinical and histologic features, and in the opportunity of their reporters for a complete study.

FURTHER REPORT OF CASES

Case 1.—The first case that I observed and reported as Case 1 in these articles has offered most unusual opportunities for observation. This patient was first seen at the Massachusetts General Hospital in 1909, with a history of having suffered from the affection for nineteen years; his condition in March, 1919, has been described to me by Dr. F. A. Chace of Fall River, Mass., a competent dermatologist. Dr. Chace writes that the skin appears to be all right with the exception of healthy cicatrices, slight scaling, and a small number of telangiectases over the sites of former lesions. About eighteen months before there was a recurrence, which promptly yielded to one massive dose of roentgen rays (Coolidge tube). Dr. Chace considered that the telangiectases were undoubtedly due to the roentgen ray, and possibly the scaling was also due to it.

Case 6.—The subsequent history of my Case 6 is interesting. This man, 51 years of age when first seen by me in November, 1914, with a history of the lesions having begun thirty years previous to that date, died on the last of May, 1918, from cancer of the pylorus. It will be seen by reference to the extended report of that case in this journal, December, 1915, that all of the lesions were excised in 1913, and that the large surface of the chest that was affected was covered by a plastic operation.

I saw the patient again in October, 1916, when it was noted that the plastic operation on the chest had given a perfect result, and that there were no
enlarged glands to be detected anywhere. There were numerous flat, supple scars over the body where the lesions had been excised and cauterized. On the back and shoulders there were left three or four quite red, flat, only slightly, if at all, scaling lesions, with in some places very small, pinpoint elevations on their surface which resembled cystic epitheliomas, which had probably not been treated. Over the right shoulder where the specimen was excised for microscopic examination there were four or five rounded and lenticular lesions, somewhat depressed in the center and slightly crusted. It seemed as if most of these were just outside the cicatricial area, on the sound skin, as in Case 1. The patient looked well, had gained in weight, and had had no other illnesses. The reason for his coming to see me was that for two months he had had several patches of alopecia areata of the occiput, one or two of which were already covered with a new growth of short hair. He had always been somewhat subject to headaches. At this time the patient stated that he had had a severe scald, when a child, on the part of the chest where the epithelioma had developed and where a burn cicatrix remained. In December following, a letter from the patient stated that there had been no increased falling, but no new growth, of hair.

I learned subsequently that a year later, in December, 1917, he developed severe headaches, and showed a very high blood pressure, renal casts and transient albuminuria. In May, 1918, he developed symptoms of obstruction of the pylorus and died on the twenty-ninth of that month. This account was kindly sent to me by Dr. Odin L. Smith of Machias, Me., who further reported that a postmortem examination revealed a growth of the pylorus which was examined by Dr. Whittier of Brunswick, Me., and pronounced to be a carcinoma.

**Comment**

It is interesting to notice, therefore, that in Case 1 twenty-nine years have elapsed since the beginning of the cutaneous affection, and that the patient has been practically free from lesions for several years, following active destructive treatment, although a tendency to recurrence asserts itself from time to time. In this case the lesions have always remained localized in a limited territory. In Case 6 the patient died of internal cancer thirty-four years after the first appearance of the skin affection, which was in his case much more widely distributed and more varied in type.

Precancerous dermatosis, while it cannot be advocated as an exact term, serves to call attention to the group of cutaneous affections which includes Paget’s disease of the nipple, xerodermia pigmentosum, keratosis senilis, arsenical keratosis, etc., in all of which carcinoma results much more frequently than in other skin affections, and all of which have many points of histologic resemblance. The cases under consideration belong in this category, at least for purposes of study, until a more scientific and exact classification can be offered.
SERIOUS REACTIONS FROM THE SALVARSAN AND DIARSENOL BRANDS OF ARSHPHENAMIN

UNUSUAL BLOOD PICTURES, WITH THE REPORT OF A FATAL CASE *

JOSEPH EARLE MOORE, M.D.

AND

FREDERIC E. B. FOLEY, M.D.

BALTIMORE

Owing to the widespread interest in reactions following the use of arsphenamin, we report four cases which show a type of reaction clinically familiar enough in its main points, but associated with unusual changes in the blood, which have heretofore not been generally known. In one of the cases which came to necropsy, pathologic evidence was offered which, partially at least, explains the blood picture; and in addition the fatal case revealed a kidney lesion which has been shown experimentally to be associated with intoxication with arsenical compounds, but which, so far as can be determined, has not been previously reported in human beings.

REPORT OF CASES

CASE 1 (Med. No. 33600)—History.—Male, colored, aged 28, was admitted Jan. 17, 1915, and discharged April 1, 1915, well. His family history was negative. His past history was unimportant except for a primary sore followed by secondaries in 1910. Since that time he has suffered more or less continually with nocturnal headaches, bone pains and sore throat.

Present Illness.—This began three days before admission, with fever, cough and pain in the right side.

Physical Examination.—Examination on admission showed that the condition was essentially lobar pneumonia of the right lower lobe. There were no physical findings referable to syphilis. The Wassermann reaction in the blood was positive; in the cerebrospinal fluid, negative.

Course in Hospital.—The temperature fell by lysis, reaching normal January 29, and remained so. Within a few days after this date the physical signs had disappeared.

Feb. 10: He was given 0.3 gm. of the salvarsan brand of arsphenamin with no reaction.

February 15: Salvarsan, 0.5 gm., was given. No obvious reaction followed, except that about a week later and for three weeks thereafter he complained of severe itching of the skin over the whole body. Objectively, nothing could be seen to account for this, and no rash appeared at any time. The urine showed nothing of any significance.

* From the Department of Syphilis and the Phipps Psychiatric Clinic and the Department of Pathology, Johns Hopkins Medical School.
### TABLE 1. BLOOD FINDINGS IN CASE 1

<table>
<thead>
<tr>
<th>Date</th>
<th>Red Blood Cells</th>
<th>Hemoglobin %</th>
<th>White Blood Cells</th>
<th>Neutrophils</th>
<th>Basophils</th>
<th>Eosinophils</th>
<th>Lymphocytes</th>
<th>Transitional</th>
<th>Unclassified</th>
<th>Neutrophilic Myelocytes</th>
<th>Basophilic Myelocytes</th>
<th>Remarks</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Percentage</td>
<td>Absolute Number</td>
<td>Percentage</td>
<td>Absolute Number</td>
<td>Percentage</td>
<td>Absolute Number</td>
<td>Percentage</td>
<td>Absolute Number</td>
<td>Percentage</td>
</tr>
<tr>
<td>Jan. 17</td>
<td>4,568,000</td>
<td>81</td>
<td>13,480</td>
<td>84.0</td>
<td>11,665</td>
<td>0.25</td>
<td>34</td>
<td>0.5</td>
<td>83</td>
<td>0.25</td>
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<td>13,240</td>
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<td>1.0</td>
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<td>19</td>
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<td>22</td>
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<tr>
<td>23</td>
<td>4,498,000</td>
<td>75</td>
<td>14,520</td>
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<td>9,265</td>
<td></td>
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<td>25</td>
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<tr>
<td>Feb. 7</td>
<td>4,449,000</td>
<td>75</td>
<td>6,000</td>
<td></td>
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<td></td>
<td></td>
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<td>10</td>
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<td>15</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>March 2</td>
<td>4,156,000</td>
<td>87</td>
<td>8,400</td>
<td>34.0</td>
<td>2,856</td>
<td>2.0</td>
<td>168</td>
<td>12.9</td>
<td>1,068</td>
<td>28.5</td>
<td>2,209</td>
<td>13.0</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td>64.5</td>
<td></td>
<td></td>
<td>1.5</td>
<td>355</td>
<td>5.0</td>
<td>355</td>
<td>38.5</td>
<td>3,037</td>
<td>8.0</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td>43.5</td>
<td></td>
<td></td>
<td>4.5</td>
<td>355</td>
<td>4.5</td>
<td>355</td>
<td>38.5</td>
<td>3,037</td>
<td>8.0</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td>7,000</td>
<td>33.4</td>
<td>3,778</td>
<td>0.7</td>
<td>49</td>
<td>9.9</td>
<td>663</td>
<td>23.3</td>
<td>1,381</td>
<td>6.2</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
<td>29.0</td>
<td></td>
<td></td>
<td>0.2</td>
<td>7.2</td>
<td>14.4</td>
<td>969</td>
<td>23.3</td>
<td>2,057</td>
<td>7.2</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td></td>
<td>9,000</td>
<td>60.9</td>
<td>5,472</td>
<td>0.7</td>
<td>63</td>
<td>3.3</td>
<td>397</td>
<td>23.3</td>
<td>2,057</td>
<td>7.2</td>
</tr>
</tbody>
</table>

It is unfortunate that an interval of 16 days elapsed between the last dose of salvarsan and the beginning of blood observations. It will be noted that from January 17 to February 7 the counts are typically those of a defervescing fieber phleomann. After salvarsan there is noted a relative and absolute decrease in the polymorphonuclear neutrophil cells with a well marked increase in the eosinophil cells and a slight though definite increase in the large lymphocyte group. The small mononuclears remain at about a normal level. There is no leukopenia. Evidence of bone marrow stimulation is seen in the appearance of the myelocytes.
Blood Findings.—As may be seen from Table 1, the counts from January 17 to February 7 were typically those of a defervescing pneumonia—a gradually disappearing leucocytosis with a relative and absolute increase of the polymorphonuclear neutrophil cells, but otherwise a normal differential count. Unfortunately, no counts were made from February 7 to March 3, at which time, stimulated by the fact that the patient who received the other half of the 1 gm. ampule was having such an unusual blood reaction, counts were begun again.

Case 2 (Med. No. 35760).—History.—Female, white, aged 37, was admitted April 8, 1916, and discharged May 2, 1916, improved. The family history was negative. There was no history of primary or secondary syphilis. For several years—about five—the patient had been going to various outpatient departments for tertiary syphilitic osteitis of the left radius. Until February, 1916, she had been treated with various mercurial preparations but no arsenic had been used. Beginning Feb. 8, 1916, the diarsenol brand of arsphenamin was given in dosage shown in the table.

<table>
<thead>
<tr>
<th>Date</th>
<th>Diarsenol, Gm.</th>
<th>Reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb. 8, 1916</td>
<td>0.3</td>
<td>Slight headache, chills for a few hours</td>
</tr>
<tr>
<td>Feb. 13...</td>
<td>0.3</td>
<td>Nausea and headache, few hours</td>
</tr>
<tr>
<td>March 14...</td>
<td>0.3</td>
<td>None</td>
</tr>
<tr>
<td>March 21...</td>
<td>0.3</td>
<td>None</td>
</tr>
<tr>
<td>March 28...</td>
<td>0.3</td>
<td>See present illness</td>
</tr>
<tr>
<td>April 3...</td>
<td>0.2</td>
<td></td>
</tr>
</tbody>
</table>

Present Illness.—April 8, 1916, the patient was admitted to the hospital. She gave a definite history of itching all over the body since March 15—that is, beginning the day after the third dose of diarsenol was administered—and a rash which had not previously been present appeared April 2, three days before the last injection. April 5 the following note appeared on her dispensary history: "No symptomatic reaction (after dose of March 28) but shows a profuse eruption on arms and body. There are reddish discrete macules and papules, in size ranging from pin point to large patches." In spite of this the patient was given diarsenol, 0.2 gm. April 7, the rash began to spread, and her legs swelled. Headache and anorexia have been present since the latter date.

Physical Examination (April 8, 1916).—Over both arms and legs, more marked in the upper portions, and also over the neck, abdomen and back was a profuse maculopapular eruption. It was hot, dry and rough. There was soft edema of the ankles. Otherwise the examination was negative.

Course in Hospital.—April 11: On the upper chest and back the eruption was morbilliform. The arms were covered with a dry, scaly, confluent eruption.

April 13: The rash was confluent over the face. There was marked edema of the eyelids.

April 18: There was beginning desquamation. The progress was satisfactory from this time on.

The temperature ranged between 100 and 101 F. for six days (April 8-14), thereafter becoming normal.

The urine showed a normal twenty-four hour volume with normal variations in specific gravity. There was a faint trace to trace of albumin for about ten days; and on two days only (April 13 and 14) many hyaline, granular and epithelial casts appeared.
### TABLE 3.—Blood Findings in Case 2

<table>
<thead>
<tr>
<th>Date</th>
<th>Red Blood Cells</th>
<th>Hemoglobin %</th>
<th>White Blood Cells</th>
<th>Polymorphonuclears</th>
<th>Lymphocytes</th>
<th>Transitional</th>
<th>Atypical Mononuclears</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Neutrophils</td>
<td></td>
<td>Absolute</td>
<td>Absolute</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Percentage</td>
<td>Percentage</td>
<td>Number</td>
<td>Number</td>
</tr>
<tr>
<td>April 8</td>
<td>4,506,000</td>
<td>88</td>
<td>1,840</td>
<td>56</td>
<td>2.740</td>
<td>11</td>
<td>532</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td>15.2</td>
<td>735</td>
<td>2.4</td>
<td>114</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td>17</td>
<td>452</td>
<td>1.0</td>
<td>38</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td>10.6</td>
<td>386</td>
<td>—</td>
<td>1.0</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td>32</td>
<td>1,886</td>
<td>1.0</td>
<td>59</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td>29</td>
<td>1,886</td>
<td>2.0</td>
<td>118</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td>18</td>
<td>1,886</td>
<td>3.0</td>
<td>118</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td>19</td>
<td>1,886</td>
<td>2.0</td>
<td>88</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td>40</td>
<td>1,760</td>
<td>3.0</td>
<td>122</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td>28</td>
<td>2,587</td>
<td>2.0</td>
<td>122</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td>35</td>
<td>2,016</td>
<td>3.0</td>
<td>173</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td>33</td>
<td>1,900</td>
<td>6.3</td>
<td>13</td>
</tr>
<tr>
<td>May 1</td>
<td></td>
<td></td>
<td></td>
<td>32</td>
<td>2,421</td>
<td>5.6</td>
<td>241</td>
</tr>
</tbody>
</table>

Note the well-marked leukopenia, the absolute and relative decrease in the polymorphonuclear neutrophil cells, the increase, both absolute and relative, of basophils and eosinophils and the tremendous increase in the large lymphocyte-transitional group, to which the so-called "atypical mononuclears" undoubtedly belong. The small lymphocyte group remains unchanged within normal limits. Gradual return to normal values.
MOORE-FOLEY—ARSPHENAMIN REACTIONS

CASE 3 (Med. No. 37445).—History.—Female, colored, aged 22, was admitted Feb. 23, 1917, and discharged March 27, 1917, well. The family history was unimportant. The patient was referred from the obstetric department to the department of syphilis because she gave a positive Wassermann reaction. She was seven months pregnant. She had had two children, both of whom died within one month after birth. There was a definite history of a genital sore four years before, followed by a rash, sores in the mouth and about the anus. No treatment whatever had been given.

In the dispensary, the patient received the treatment noted in Table 4.

TABLE 4.—Dosage of Diarsenol in Case 3

<table>
<thead>
<tr>
<th>Date</th>
<th>Diarsenol, Gm.</th>
<th>Reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 28, 1917</td>
<td>0.3</td>
<td>Chills and general malaise</td>
</tr>
<tr>
<td>Feb. 2, 1917</td>
<td>0.3</td>
<td>General malaise, aching of joints</td>
</tr>
<tr>
<td>Feb. 9, 1917</td>
<td>0.3</td>
<td>None</td>
</tr>
<tr>
<td>Feb. 16, 1917</td>
<td>0.3</td>
<td>See below</td>
</tr>
</tbody>
</table>

No mercury was given at any time.

Present Illness.—The patient was admitted to the hospital February 23. She stated that on February 15, the day before her last injection, she had pains in the legs, sore throat, headache and neuralgia. Since the last injection, February 16, she had remained in bed and had become progressively worse.

Physical Examination.—On admission the temperature was 102 F.; pulse, 130; respiration, 24. The patient looked ill. Face, neck and cheeks were puffy. There was marked salivation; the lips were dry and cracked; the breath foul. The gums were swollen and bled easily. On the left tonsil and on the left lower jaw behind the last molar were ulcers covered with a grayish exudate. There were similar ulcers on the right cheek and on the right side of the soft palate. When the exudate was removed a reddish, bleeding base was left. The glands were large on both sides of the neck. There was no skin rash. There was aortic dilatation and insufficiency. The patient was eight months pregnant.

Course in Hospital.—February 23: The blood culture was negative. The throat culture was negative for B. diphtheriae.

February 25: The temperature was from 102 to 103 F., with corresponding tachycardia. The exudate was marked and when removed reformed rapidly.

February 26: There was no edema of the extremities and no skin rash. The lungs were clear.

February 27: The temperature was 103 F. with slight morning remissions. There was subcutaneous edema along the neck. The eyelids were puffy.

March 3: The temperature fell to normal by crisis.

March 5: The mouth condition was improving. After this date there was steady improvement until discharge.

The urinary findings were: oliguria (375-585 c.c. per day) until March 3; thereafter the output was normal. The specific gravity varied between 1.019 and 1.022. There was a constant trace of albumin. The day of admission there were a moderate number of coarsely granular casts, not seen again, and on February 27 there were many red blood cells and the guaiac test was positive. Thereafter the findings were negative except for a trace of albumin.

CASE 4 (Psych. No. 1565).—History.—Male, white, aged 38, was admitted Jan. 22, 1917, and died March 25, 1917. The family history was negative. He had a hard chancre sixteen years ago, treated "internally" for two weeks.
<table>
<thead>
<tr>
<th>Date</th>
<th>Red Blood Cells</th>
<th>Hemoglobin %</th>
<th>Neutrophils</th>
<th>Eosinophils</th>
<th>Lymphocytes</th>
<th>Monocytes</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb. 22</td>
<td>2,504,000</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,504,000</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>March 4</td>
<td>2,504,000</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,504,000</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,504,000</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,504,000</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,504,000</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,504,000</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,504,000</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,504,000</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,504,000</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Absolute number and percentage of each type of white blood cell is given. The absolute numbers are in thousands and the percentage is calculated based on the total white blood cell count. It is noted that there is a consistent decrease in the number of neutrophils and an increase in lymphocytes over the observation period.
Shortly afterward there was loss of hair, but no other secondary manifestations. He had no further trouble until the onset of the present illness. Otherwise the history was negative. No arsenical therapy was administered at any time.

**Present Illness.**—March, 1916, the present illness began with diplopia. From this time there was gradual failure of sight in the right eye with almost complete blindness on that side by July, 1916. The left eye then began to fail, and on admission the patient could distinguish only very large objects in a bright light. He had had fairly typical lightning pains in the legs for from four to five months. There were no bladder disturbances, ataxia or headache.

**Physical Examination.**—On admission the positive points were: primary optic atrophy of both eyes, and Argyll Robertson pupils. Otherwise, the examination was completely negative. The blood Wassermann reaction was negative; cerebrospinal fluid, 177 cells per c.mm.; Ross-Jones and Pandy tests were positive; Wassermann, positive; gold chloride curve, meningitic type.

**Course in Hospital.**—The patient received the treatment noted in Table 6.

**TABLE 6.—Dosage of Diarsenol in Case 4**

<table>
<thead>
<tr>
<th>Date</th>
<th>Diarsenol, Gm. Intra-venous</th>
<th>Diarsenolized Serum, Cc. Intraspinal</th>
<th>Reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 25</td>
<td>0.2</td>
<td>..</td>
<td>None</td>
</tr>
<tr>
<td>Feb. 1</td>
<td>0.3</td>
<td>..</td>
<td>Temperature to 103, ranging from 100-101 for three days. General malaise</td>
</tr>
<tr>
<td>Feb. 8</td>
<td>0.6</td>
<td>..</td>
<td>None</td>
</tr>
<tr>
<td>Feb. 13</td>
<td>0.6</td>
<td>18</td>
<td>Temperature to 101 for one day</td>
</tr>
<tr>
<td>Feb. 21</td>
<td>0.6</td>
<td>..</td>
<td>Temperature to 102 for one day</td>
</tr>
<tr>
<td>Feb. 24</td>
<td>..</td>
<td>24</td>
<td>Temperature to 102.5 on second day; to 100 on third day</td>
</tr>
<tr>
<td>March 1</td>
<td>0.6</td>
<td>..</td>
<td>See below</td>
</tr>
<tr>
<td>March 8</td>
<td>0.6</td>
<td>..</td>
<td></td>
</tr>
</tbody>
</table>

In addition, he received inunctions until February 10, but these were discontinued because of salivation. Potassium iodid was given throughout the whole period, until the onset of the last severe reaction.

As a result of this treatment, serologic improvement was marked. The blood Wassermann reaction remained negative and the cerebrospinal fluid Wassermann reaction became negative in 0.25 c.c., but positive in double and 1 c.c. quantities. The cells came down from 177 to 6; the globulin became only faintly positive, and the gold curve was completely negative.

**Course After March 8:** On March 9 the patient had developed a maculopapular rash spreading over the entire body by evening. The temperature was 103.8 F. He complained of severe itching, chills, pains in the legs and weakness. There was marked extensor weakness of the hands and feet, and tenderness on pressure over the toes.

**March 11:** The temperature was 104.4 F. Rash was more extensive and covered the entire body. It was confluent and morbilliform.

**March 12:** The temperature was 102.5 F. The rash was diffusely erythematous. Subjective symptoms were less marked.

**March 13:** The erythema was gradually assuming a hemorrhagic character. Pressure on the skin did not blanch it. There was slight edema of the ankles and genitalia.
### Table 7: Blood Findings in Case 4

<table>
<thead>
<tr>
<th>Date</th>
<th>Red Blood Cells</th>
<th>Hemoglobin %</th>
<th>White Blood Cells</th>
<th>Neutrophils</th>
<th>Basophils</th>
<th>Eosinophils</th>
<th>Lymphocytes</th>
<th>Neutrophile Myelocytes</th>
<th>Myeloblasts</th>
<th>Unclassified</th>
<th>Smudge</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Percentage</td>
<td>Absolute</td>
<td>Percentage</td>
<td>Absolute</td>
<td>Percentage</td>
<td>Absolute</td>
<td>Percentage</td>
<td>Absolute</td>
<td>Percentage</td>
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<td>Percentage</td>
<td>Number</td>
<td>Percentage</td>
<td>Number</td>
<td>Percentage</td>
<td>Number</td>
<td>Percentage</td>
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<td>Percentage</td>
</tr>
<tr>
<td>Jan. 21</td>
<td>82</td>
<td>9,200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>March 8</td>
<td></td>
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<tr>
<td>22</td>
<td></td>
<td>2,400</td>
<td>31.0</td>
<td>744</td>
<td>0.0</td>
<td>0.0</td>
<td>20.0</td>
<td>480</td>
<td>6.5</td>
<td>156</td>
<td>2.0</td>
<td>48</td>
</tr>
<tr>
<td>24</td>
<td>2,976,000</td>
<td>35</td>
<td>1,000</td>
<td>44.5</td>
<td>474</td>
<td>0.5</td>
<td>39.5</td>
<td>418</td>
<td>12.0</td>
<td>127</td>
<td>0.5</td>
<td>5</td>
</tr>
<tr>
<td>25</td>
<td>3,800,000</td>
<td>52</td>
<td>2,100</td>
<td>0.5</td>
<td>10</td>
<td>0.0</td>
<td>13.5</td>
<td>281</td>
<td>2.0</td>
<td>42</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>25</td>
<td>3,488,000</td>
<td>52</td>
<td>600</td>
<td></td>
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</tr>
</tbody>
</table>
March 14: The liver was palpable three fingerbreadths below the costal margin. There was marked edema of the ankles, genitalia and face. The temperature was constantly elevated—102.5 F. Beneath the eruption was a diffuse brownish pigmentation.

March 18: The temperature remained high—104 F. There was marked polyuria (see laboratory findings [a]).

March 20: The patient was confused and mildly delirious. The erythematous character of the eruption had disappeared, leaving only pigmentation. There was slight beginning desquamation.

March 22: The patient was weaker. The temperature was about 105 F. constantly. The blood culture was negative.

March 23: The temperature was 104 F. The bladder was distended so that catheterization was necessary. The blood pressure was falling—systolic, 85; diastolic, 60.

March 24: Circulatory failure imminent. Blood pressure: systolic, 40; diastolic, 25. Late in the afternoon he was in semiconscious. There was evidence of pain on moving the extremities. The abdomen was moderately distended, but there was no fluid. Liver and spleen were not palpable. There was no fluid in the chest. At 10:30 p. m., a transfusion of 550 c.c. of citrated matched blood was given, with immediate improvement in general condition and color.

March 25: The patient gradually grew weaker, and died at 11:50 a. m.

Laboratory Findings.—(a) Kidneys: From March 9 to 20 there was marked polyuria (from 2 to 4 liters a day); low specific gravity (1.001 to 1.008); albumin and sugar were negative; bile was present on March 9 but not thereafter, and microscopic examination was completely negative. There were no casts, white blood cells or red blood cells at any time. From March 20 to 23, traces of albumin first appeared and polyuria continued; still there were no casts or red blood cells.

March 24 there was a sudden and almost complete suppression of urine—only a few cubic centimeters were obtained, and this by catheterization. It contained from 2 to 3 gm. of albumin per liter and a very heavy sediment, apparently made up entirely of tremendous numbers of finely and coarsely granular, hyaline and epithelial casts. There were no red blood cells; guaiac, negative.

Phenolsulphonephthalein: March 13, 20 per cent. in two hours. March 17, 12 per cent. in two hours. March 24, none in two hours.

Blood Chemistry: March 22 (3 p. m.), total urea nitrogen, 16.8 mg. per 100 c.c. March 22 (8 p. m.), total urea nitrogen, 17 mg. per 100 c.c. Ambard's coefficient, 0.151. March 24 (10:30 p. m.), nonprotein nitrogen, 102 mg. per 100 c.c. Urea nitrogen, 59 mg. per 100 c.c. Protein nitrogen, 699 mg. per 100 c.c.

(b) Acidosis: None demonstrated. March 25 (9 a. m.), blood H-ion concentration 7.6; R₉ 8.3; carbon dioxide tension alveolar air 26 mm.

Summary of Gross Necropsy Findings.—Necropsy was performed two hours after death. The body was that of a well nourished white male. There was marked jaundice of lemon yellow tint, and desquamated areas and areas of reddish brown discoloration on the skin. There were ulcerations along the gum margins. The abdominal cavity and right pleural space contained considerable straw colored fluid.

The heart showed nothing of interest.

The upper lobes of the lungs were voluminous and of deep color. On section, small areas in both upper lobes, 0.5 cm. in diameter and of bright red color, stood out on an otherwise normal surface. Grossly, they appeared
to be areas of hemorrhage. In the lower lobe there were raised, granular areas about 1 cm. in diameter, apparently patches of lobular pneumonia.

The spleen and liver were not remarkable.

Each kidney weighed 370 gm. They were markedly enlarged and quite alike in appearance. There was pericapsular edema. Over the entire surface were scattered hemorrhages, varying in size from 2 mm. in diameter to large confluent areas 2 cm. in diameter. These hemorrhagic areas were stippled with small yellowish opaque areas of irregular outline (necrosis; see Fig. 1). On section, hemorrhage and necrosis also were apparent. There was marked engorgement along the margins of the pyramids. The medullary rays were well defined and rather red. An occasional yellowish, opaque line extended through a pyramid from the border zone almost to the papilla. Such yellow opaque areas were very numerous in the border zone of all pyramids. From this point they extended out through the cortex and became continuous with similar areas seen on the surface (Fig 2). These areas of necrosis were surrounded by halos of hemorrhage. They covered approximately one half of the cortical tissue.

The suprarenals together weighed 30 gm. The right one was hemorrhagic. In the pelvic organs there was congestion, and small hemorrhages were present in the mucosa of the bladder.

Fig. 1 (Case 4).—Gross appearance of kidneys. Marked enlargement, combined weight 740 gm. The organs are soft, and there are wide areas of hemorrhage and necrosis.
The stomach and intestines were distended. The gastric mucosa was congested, and in small areas the epithelium had been lost. The mesenteric glands were enlarged. On section they presented a dirty, gray colored surface.

The brain presented bilateral optic atrophy. The membranes over the retrochiasmal cisterna were thickened.

There was an accessory dural sac in the spinal cord, 10 cm. in length, which lay in a depression on the second and third thoracic vertebrae.

Except for a few inconspicuous longitudinal wrinkles in the descending arch, the aorta appeared normal.

Microscopic Findings.—Lungs: Almost every field showed some degree of pulmonary edema, the alveoli containing a frothy pink staining material and desquamated epithelial cells. In addition, the alveoli contained varying numbers of red blood cells and an occasional leukocyte. These were of the mononuclear type only, almost no polymorphonuclears being seen. A few pigment laden cells were also seen. The alveolar walls were swollen. This describes the general microscopic appearance. In addition, there were foci here and there throughout the sections where the alveoli were densely packed with blood. These hemorrhagic areas were invariably associated with clumps of blue staining material made up of organisms. Even in these regions there was no cellular exudate. In some of these foci the alveolar walls had been destroyed (Fig. 3).

Kidney: There were many subcapsular hemorrhages. The vessels were everywhere engorged. Hemorrhages were numerous in the outer cortex and smaller ones were seen in the mid-cortex. They were found everywhere throughout the border zone and extended somewhat into the pyramids. The tubular epithelium showed extensive degeneration everywhere. The nuclei stained poorly, the cells were frayed, the outlines lost and there were numerous...
vacuoles. These changes were most pronounced in the outer cortex and boundary zone, but occurred to a less extent in the pyramids. The lumina of the tubules contained a pink staining, finely granular precipitate. Only a few tubules contained blood. In addition to these widespread degenerative changes, there were certain foci in which the tubular epithelium was completely necrotic and appeared as a homogeneous, finely granular mass. Such masses stained a deep blue, and suggested accumulations of organisms such as were seen in the lungs. However, with bacterial stains no organisms were demonstrable, while chemical tests proved the presence of calcium.

Fig. 3 (Case 4).—Microscopic appearance of lung. The dark staining spots are clumps of bacteria. The exudate contains almost no leukocytes. There is pulmonary edema.

The interstitial cells about the regions of necrosis were destroyed, being replaced by nuclear fragments and protoplasmic débris. These areas of necrosis and beginning calcification were most numerous in the outer cortex and the boundary zone, though an occasional tubule showing the condition was found well down in the pyramid (Fig. 4). The capsules were somewhat dilated and swollen, and the capsular spaces contained a granular, pink staining precipitate. The epithelium was greatly swelled and in places degenerated. In the areas of tubular necrosis, extreme degenerative changes were seen in the glomeruli. Those bordering the areas of necrosis were so greatly engorged
and dilated that the capsular space was obliterated. Throughout the section the endothelium of the capillaries was swelled.

Bone Marrow: Decalcification had made the sections unsuitable for Romanowsky dyes. The marrow was definitely aplastic and showed signs of an exhausted activity. Degenerative changes were marked and were seen in all stages. Some of the cells showed only poor staining, with haziness of the nucleus and a frayed cell outline. In others the nucleus refused to stain at all but remained intact, while the cell outline was destroyed, and the protoplasm appeared as a granular mass about the nucleus. Finally, there were degenerated masses in which only pink staining accumulations of granules were seen. There were no orderly leukopoietic centers with peripherally placed, mature polymorphonuclear forms. Even granular myelocytes were few. There were numerous nongranular forms belonging to this series. They were probably myeloblasts, but in the preparations available they could not be definitely differentiated as such. The striking feature was the absence of mature forms of the leukocytic series. There were numerous normoblasts and megaloblasts.

Sections of other organs showed no pertinent alterations, with the exception of slight degenerative changes in the epithelium of the liver and suprarenals.
lymphoid hypoplasia in the spleen and lymph glands (in active germinal centers), syphilitic mesaortitis and bilateral optic atrophy.

DISCUSSION

These four cases have been presented in ascending order of their clinical gravity. Directly corresponding with the general situation would appear to be the blood picture. In Case 1, with no other manifestations than itching, there was no leukopenia, slight but definite decrease in the polymorphonuclear neutrophil cells, and a slight increase in the eosinophils and large lymphocyte-transitional group, while the red blood cells showed only diffuse basophilia. In Case 2, in which a rash was present, there was definite leukopenia and the same differential picture as in Case 1, only in more marked degree. With Case 3 a distinct difference presents itself. Leukopenia was still more marked, but in the differential count there was not only an extreme decrease of the polymorphonuclear neutrophil cells, but also of the other granular cells (eosinophils and basophils) as well; while the large lymphocyte-transitional group was much increased. Evidence of destruction and later regeneration of the red cells is provided by the low red blood cell and hemoglobin estimations, together with the normoblastic crisis following the fall in temperature. Case 4 presents the final picture—that of extreme anemia and leukopenia, the hemoglobin falling from a normal level of 82 per cent. (Sahli) to 35 per cent. before transfusion, and the white blood cells reaching only 600 per c.mm. just before death. The differential count shows not only a decrease of the polymorphonuclear cells, but of all the bone marrow elements, until the few cells present are fragile forms which cannot be identified.

The essential characteristics of the blood picture are: Leukopenia, and absolute and relative decrease in the polymorphonuclear neutrophil cells, partially compensated for by a corresponding increase in the eosinophil and basophil granular cells and the large lymphocyte-transitional group; or, in a more severe grade of reaction, a practical disappearance from the blood stream of all granular cells, with the increase in the large lymphocyte-transitional groups more marked; while, if the reaction is maximally severe, all the leukocytic elements of the bone marrow are replaced by fragile forms, impossible of identification. The small lymphocyte cells, which owe their origin not to the bone marrow, but to the lymphoid elements of the body, are very little disturbed. Also there is generally evidence of disturbance of erythropoiesis and platelet formation.
Clinically, this leads to the suspicion that salvarsan and its allied products have a markedly toxic effect on the bone marrow; and this is borne out by the pathologic findings—degenerative changes in the marrow with practical absence of mature leukocytic forms. This effect on the marrow is undoubtedly, when severe enough, the cause of death, first, by the production of a hemorrhagic diathesis (which led in Case 4 to hemorrhages in the skin, lungs, bladder mucosa, suprarenals and cys); and second, by the failure of the body to react to the invasion of bacteria by the ordinary defensive mechanism, as seen in the noncellular exudate in the lungs in spite of the presence of large numbers of bacteria.\(^1\)

Furthermore, the action of salvarsan on the bone marrow is apparently both toxic and stimulating; and, as was first surmised by Evans,\(^2\) this action is largely selective, depending in its selection on the extent of the damage done, until the poison, whatever its nature, overwhelms the whole bone marrow. The toxic action is apparent first on the neutrophilic granular cells, next on the eosinophilic and basophilic granular cells, and last of all on the large lymphocyte-transitional group; while the stimulating action is seen first in the eosinophils and basophils, and later, when they are decreased by toxicity, on the large lymphocyte-transitional group.

As stated above, the general clinical characteristics of these cases are fairly well known. Dermatitis, peripheral neuritis and nephritis are not uncommon events in arsenical poisoning. The interesting clinical feature is the blood picture, and it is to be hoped that careful observations will be made of similar cases.

We do not feel that the unusual blood findings in these cases can be ascribed to the accompanying dermatitis, though it is well known that in many skin diseases, among which is included exfoliative dermatitis from any cause, eosinophilia may be present. However, here the blood changes involve not only eosinophilia, but the whole bone marrow function, and in varying degree. This is sufficient to rule out the question of skin irritation. Furthermore, it is significant that the patient in Case 3 did not have a dermatitis; and other observations made at this clinic, as yet too incomplete to publish, indicate that the blood picture described here is by no means uncommon, and that it occurs in cases which do not present the clinical reactive syndrome of arsenical der-

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1. Winternitz and Hersfelder found such a noncellular exudate in the pneumonia of experimental animals whose bone marrow had been destroyed, J. Exper. M. 17:657, 1913.

matitis. On the other hand, a few cases of dermatitis have been followed with this point in mind, and have been found to be minus the blood picture. A more complete report will be made on this point.

No explanation for the blood reaction is at present available. The most satisfactory theory is that there is some impurity in the drug, or that under unknown circumstances it breaks down in the body into some compound which produces the reaction. This would appear to be borne out by the fact that in Cases 1 and 4, other patients receiving a dose from the same ampule developed similar reactions (Case 1 was given half of a 1 gm. ampule, the other half of which was given to the case reported by Evans. Case 4 received 0.6 gm. from a 3 gm. ampule, from which four other patients received a similar dose. Three of these had no reaction; the fourth became jaundiced and showed differential blood counts with a large lymphocyte-transitional increase. These counts have unfortunately been lost). No such connection can be traced for the patients in Cases 2 and 3, who received dosage from the same batch of drug used in treating forty or fifty other patients. In all these patients every precaution regarding technic of administration was followed, and it is felt that this can be ruled out as a causative factor.

Individual idiosyncrasy is always an unsatisfactory explanation, to be conjured up only as a last resort. Nevertheless, it is a well-known fact that if a patient develops dermatitis of the exfoliative type following arsenical therapy, he will in all probability have a similar reaction following any subsequent attempt to renew the salvarsan treatment. In all syphilitic clinics dermatitis is a signal for the abandonment of salvarsan, at least of the particular preparation which caused the reaction, although, curiously enough, another arsenical (as for example, neosalvarsan) will often be well tolerated. For this phenomenon no other explanation than individual idiosyncrasy can at present be applied. So far, no case of this type has been investigated with regard to the blood findings.

There is a certain superficial analogy between the blood pictures and the microscopic picture of the bone marrow that we have reported with those of benzol poisoning and anaphylactic shock. Salvarsan, of course, contains a double benzol ring, but no evidence can be found to show that in the body it breaks down into benzol. Investigation of its known products of decomposition along the lines of their selective toxicity for the bone marrow would be well worth while. As regards anaphylaxis, the question is much more difficult, but it is hoped that certain problems which present themselves in this connection can be investigated.
In a careful search of the literature for similar cases, we have found only two references. In 1916, Evans\(^3\) reported a case of reaction to salvarsan which showed, in addition to exfoliative dermatitis, a very peculiar blood picture with an increase in the transitional cells to as much as 40 per cent. of the total count. Evans interprets this as an evidence of the selective stimulation of this group of cells by salvarsan, but offers his paper as a demonstration of the bone marrow origin of this cell group. Recently, Latham\(^4\) reported a case of exfoliative dermatitis following arsphenamin, accompanied by a persistent polymorphonuclear leukocytosis and an eosinophilia reaching as high as 40 per cent. during a temporary improvement in the patient’s condition, but falling to zero four days before death. At necropsy the bone marrow was not examined, and the kidneys showed little besides congestion.

Another interesting point, in view of the necropsy findings in Case 1, is the kidney lesion. The first three cases reported show no notable urinary findings, with the exception of evidence of kidney irritation — slight albuminuria, cylindruria, etc. In Case 4 the clinical findings with reference to the kidneys are much more striking—a definite early kidney irritation as evidenced by polyuria and inability to concentrate solids, a gradually decreasing phthalein output, and, two days before death, sudden and almost complete anuria with an outpouring of huge amounts of necrotic kidney substance, so much in fact that half the volume of the urine was taken up with this material. Following this, previously normal blood urea nitrogen and nonprotein nitrogen figures rapidly rose to the point usually associated with uremia.

So far as we are able to determine after a careful examination of the available literature, our fatal case presents for the first time in the human subject the kidney lesion produced by Pearce and Brown\(^5\) in experimental animals (dogs) by the use of arslenicals. These workers were able to distinguish differences in the lesions produced by the several different preparations used (arsenious acid, atoxyl, arsenticene, salvarsan, arsphenyl-glycin, etc.). The lesions in this case seem to exhibit the character of both their salvarsan and arsphenylglycin kidneys.

SUMMARY

1. Four cases have been described of severe reactions to the salvarsan or diarsenol brands of arsphenamin with an unusual blood picture, characterized by leukopenia, eosinophilia and increase in the large lymphocyte and transitional groups, together with other evidence of destruction of the bone marrow.

2. Salvarsan evidently has both a toxic and stimulating action on the bone marrow, and these effects are, so far as can be determined from examination of such a small number of cases, selective.

3. In a fatal case of salvarsan poisoning there was found at necropsy a markedly aplastic bone-marrow showing degenerated cells and absence of the more mature forms of the myelocytic series.

4. The fatal case showed for the first time, so far as can be determined, approximately the same kidney lesion as that produced in experimental animals by Pearce and Brown.
A CLINICAL STUDY OF LICHEN PLANUS*

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INTRODUCTION

In this study of lichen planus the cases considered were clinically typical at some time during observation, all doubtful ones being omitted. In addition to the few that were doubtful, there were probably other instances among the varied lot of dermatological patients seen. As pointing to proof of this is the fact that not always was it possible to determine the true lichen planus character of the eruption at first, and single visit patients are quite common in a dermatological practice. These latter often have their prescriptions refilled many times. In many of the letters received from such patients in answer to queries, the length of time the medicines had been used was stated as months or a year or more. There is another class of patients that, on consulting a specialist, seems to feel a cure should be immediate however long the disease has progressed, and when it is not, an appeal to another physician is in order.

INCIDENCE OF LICHEN PLANUS

Among more than 8,000 patients with skin affections, there were 148 instances of lichen planus. The percentage, which is less than two in the number of patients, is still smaller in the ratio of lichen planus, the disease, to the number of different skin manifestations indexed according to the accepted nomenclature.

Eighty-two were males, sixty-six were females (55 per cent. and 44 per cent.), and they ranged in ages from 3 months to 87 years. Eighty-two per cent. were between the ages of 20 and 60 years. Arranged by decades, four were under 10 years; six between 10 and 20 years; thirty-one between 20 and 30 years; forty between 30 and 40 years; thirty-one between 40 and 50 years; twenty between 50 and 60 years; twelve between 60 and 70 years; six between 70 and 80 years, and two were over 80 years of age.

LOCALIZATION OF ERUPTION

Fairly careful notes were kept with regard to the parts affected and, aside from the external genitalia, the close correspondence in the male and the female was striking. As an example of this might be

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instance the lower extremities which, in the eighty-two males, were involved in forty-four, and in the sixty-six females, thirty-six, a percentage so close it is without significance. The same held so nearly true throughout, including the mucous membranes, that it is not necessary to consider the sexes separately.

The lower extremities were the parts most frequently involved, eighty having the eruption there, the anterior surface of the thigh and about the knee being the commonest location. In sixty-six the upper extremities were involved, making the lower and upper extremities by far the most frequent locations of the eruption. The forearms and wrists were affected in twenty cases, the wrists seventeen times. One always looks carefully at the wrists for a verification of his diagnosis. In four instances the wrists alone were affected.

The eruption occurred on the hands sixteen times, usually on the back, the palms showing it in only five.

In forty-nine instances, less than one-third the entire number, one or more parts of the trunk showed the eruption. This did not include the base of the neck, one of the most characteristic locations, especially of lichen atrophicus. Involvement of the neck, base of neck, and shoulders, occurred twenty-five times.

Fourteen times, in less than 10 per cent. of the cases, the eruption was universal. These instances were either acute manifestations of the disease or acute exacerbations of older cases. In a large majority with universal eruptions fairly rapid improvement occurred under treatment.

The eruption occurred on some part of the head in seventeen instances. It was noted on the face ten times, and on the scalp, nine.

Not infrequently is the male adnexa affected. It occurs in practically 25 per cent. of cases. In the eighty-two cases, twenty were affected — the glans penis eighteen times, the shaft and prepuce nine, and the scrotum fifteen. Either the female genitalia escapes more frequently or the eruption was overlooked here. Only in one instance in the sixty-six was it recorded. This was a remarkable case of lichen atrophicus of the vulva associated with other areas on the body and limbs and the distress was intense.

It was not frequently found over the sacrum, the pubes, in the groin, crotch, internatal fold, on the perineum or anus, in the axillae, under the breasts, on the fingers, ankles, feet and soles of feet, though on all these parts the eruption was seen. No region was entirely missed by the disease.

**Involvement of Mucous Membranes**

As interesting as any feature of lichen planus is its mucous membrane manifestation. Seventeen males and fourteen females showed
the eruption in the oral cavity. Here again the percentage in the sexes is nearly the same — a little more than twenty. Of these thirty-one, the cheek pouches were affected most frequently — twenty-three times. Not always are both cheek pouches affected, and in one instance the only evidence of the disease was in the left cheek pouch. Six times it was to be seen on the tongue, and once on the tongue alone; and in one instance each the white papules were found inside the lower lip and on the palate.

Before one attempts to reach an absolute conclusion in a doubtful case, the oral cavity should be carefully searched for the small white papules and white lace-work eruptions so characteristic of lichen planus. A first examination may be negative and a later inspection show the newly appeared papules. The young baby, but a few months old, had the typical shiny, angular, waxy and umbilicated papules universally distributed over the whole outer surface, and many small white papules in the mouth.

**ABERRANT ERUPTIONS**

The hypertrophic form of the disease occurred five times—four times in males and once in the female; lichen atrophicus, five times—three times in females and twice in males, and there were three instances in which the vesicular type presented, twice in males and once in the female. In all these rare types there were typical papules either near the aberrant forms or elsewhere distributed at some time during observation, making an absolute diagnosis possible. Only two of the patients in this group are known to be deceased, one a man, aged 71, and the other a woman, aged 74. It was possible to obtain histories of patients before consultation or to follow them subsequently for from two to twenty years in sixty-three instances. As nearly as could be learned, none died during the recent influenza epidemic though a number had the disease and did not develop pneumonia. In so far as it goes, the above is a contradiction to some of the observations in the past that lichen planus subjects are peculiarly susceptible to pneumonia.¹

**SYMPTOMATOLOGY**

An attempted study of the possible prodromal symptoms, duration and cause of the disease failed to establish any absolute conclusions. Perhaps in no other skin disease would it be found that the duration

preceding consultation was more variable, lasting from a few days to as many as twenty years, many patients giving histories of repeated attacks of the acute form of the eruption.

It might be of interest to note that twenty cases were recorded as having had the eruption not longer than one month, ranging from five to thirty days. Of these twenty, four, or one-fifth, had lichen papules on the oral mucous membrane. This compares well with the general proportion of mucous membrane involvement to the total number. Two of the four were instances of acute generalized eruption. This is but an instance of how difficult it is to consider rules in lichen planus.\(^2\)

In 112 instances, 75 per cent., the occupation of the individual was recorded as sedentary. It would appear that even a greater proportion than this had sedentary habits of some sort, either voluntary or involuntary, this being especially true of the digestive system, as 78 per cent. were constipated. In addition to the 116 that were constipated, and many of whom had marked digestive disturbances as well, there were fifteen others with deranged digestion, though they were regular in habit. This important fact that 88.5 per cent. had some distinct digestive or eliminative disturbance will be considered later.

Of other symptoms recorded, itching had the most prominent place. One hundred and thirty-five, 90 per cent., had distinct itching. A very large majority of the patients complained of its extreme intensity, so intense in some instances that scratch furrows were produced similar to those over the shoulders and back in pediculosis, robbing the latter condition of its almost specific sign. One old lady wore off her finger nail ends completely and cried for the lack of a suitable means of scratching. In addition to the number with distinct pruritus, 6 per cent. were recorded as having little itching, and only two with skin involvement were recorded as having none. Often the intensity of the itching is a clue, but its absence should not be misleading in the diagnosis.

Eighty-one, 54 per cent., had some form of nervousness. This proportion is smaller than I anticipated. It is not at all unusual for these patients to be tearful during their early visits, but perhaps not more so than are many with other acute skin reactions of toxic origin, especially those of the erythematous type. It might be pointed out that the more acute and intense the lichen planus, the greater the nervousness.

Many factors enter into this symptom or symptom complex. Wakefulness is often a result of itching, and loss of sleep materially increases nervousness. Gastro-intestinal disturbances, so common in

lichen, interfere greatly with the patient's rest. But perhaps of greatest importance is the effect of some as yet undiscovered toxin which, while producing the skin eruption, also reacts on the general nervous system. In many instances communications received from patients stated that after complete recovery from the disease their nervousness had entirely disappeared.

As bearing on nervousness and the effect of nerve tension on the disease, an observation may be of interest. This group of 148 patients was seen during a period of thirteen years, or one hundred fifty-six months, almost an average of one case a month. From May, 1917, to October, 1918, not one new case appeared. This stretch of seventeen months was remarkable in more than one way as relating to lichen planus. The nerve tension of the community was at its highest, yet the indication is fairly definite that lichen planus in California was not on the increase at that time.

There is a possible explanation of this peculiar circumstance. Conservation of food was most strenuous then, and in the West sugar and milk-fats were restricted more than anything else. Meat was plentiful because of the large local supply and the difficulty in shipping. Fresh vegetables were always obtainable fairly cheaply, and the people were urged to eat them. I think the statement will go unchallenged that as normal and well balanced a food ration as one could wish was more nearly the rule than the exception. Food of the best quality was obtainable during all of the time, and those foods most easily fermentable were the ones that were most greatly restricted.

Beginning with October of last year, there was one new lichen planus case, another in December, and ten more have appeared since the first of 1919. Following the signing of the armistice, a relaxation occurred, and with it a rapid return to the use of the previously conserved foods to the extent formerly used or possibly even greater. Can it be that our good conservation friend Hooverized lichen planus?

TREATMENT

In this list of case notes the one drug that seems to have had greatest influence was the bichlorid of mercury in the dose of \( \frac{1}{2} \) of a grain or less by mouth combined with other medication. It must not be inferred that this was used in any sense as a specific, but it seems to have had a beneficial influence more frequently than arsenic. In several instances in which arsphenamin had been inadvertently administered the patients reported that it had no apparent effect on the disease. I now have a patient, a woman, who had a gumma of the forehead, under antisyphilitic treatment. She has had chronic lichen
planus for years. The lichen flared up after two infusions of arsphenamin. There was a coincident intestinal disturbance and marked nervousness. Intramuscular injections of gray oil for the syphilis have not altered the lichen planus. In one other patient who had had lichen planus for twenty years which had become hypertrophic on the thighs, with ulcerations closely resembling mycosis fungoides, there was almost complete disappearance under huge doses of cacodylate of soda. With all the patients careful symptomatic treatment was administered or advised.

As to duration under treatment, this, too, is of doubtful significance. A large majority respond well to treatment, and attention is repeatedly drawn to the fact that as a group these patients are an extremely grateful lot. From this one would infer that the disease is not such a formidable one and that, although a specific line of treatment is not known, there is generally a hopeful outlook.

ETIOLOGY

Of great interest to myself was the constancy with which symptomatic treatment had to be directed to the digestive canal. As stated before, 131 of the 148 patients required medication either for constipation or for digestive disturbances otherwise and, in many instances, for both. This would seem to lend weight to a conjecture that the intestinal canal has something to do with the cause of lichen planus although the disease be due simply to a metabolic disturbance or the result of toxins arising from micro-organisms within.

Beginning with the premise that the picture of lichen planus is the result of a toxin from intestinal micro-organisms, it is reasonable to infer that any factor which will aid in the greater propagation of these will tend to produce the eruption, to cause exacerbations of it, or to increase in intensity the symptoms that characterize the disease. This would be true of the onset of intestinal sluggishness whatever the cause; likewise true of excesses in eating and drinking, especially of those elements most easily fermentable within the intestinal canal and which are well known to be the best culture mediums. It is mighty far fetched to suggest a possible strain of the streptococcus, and it would be a huge task imposed on any bacteriologist to isolate the strain if it were present, but it would not be beyond such a possibility.

CONCLUSIONS

1. As a working basis in the study of lichen planus the disease must be considered constitutional. No evidence was found of its infectivity.

2. The result of study of prodromal symptoms was negative, also of any possibility of predicting the duration of the disease.

3. The predisposing causes were: sedentary occupation, sedentary habits, excesses or faults otherwise in eating and drinking, nerve strain or any other depleting influence. The nervous element in the disease is not so much a causative factor as it is a coincidence, and a result of some toxemia which is an essential element of the disease entity.

4. Treatment must be constitutional as well as local.

323 Geary Street.
The purpose of this work was to find a simple method by which mold spores contained in scrapings could be identified. Many stains have been used by various authors, but the technic employed either requires too much time or is so complicated that it is of little service to the practitioner.

Under ordinary circumstances, the immersion of the scrapings containing spores in 10 per cent. potassium hydroxid solution, in many instances, is quite sufficient to make a diagnosis. There are, however, cases in which only a few spores are present, and on examination the question arises whether the globules seen are those of degenerated keratin, fatty or protein substances, or the spores themselves. Unfortunately, this method goes no farther in making a differential diagnosis.

In this series of experiments it was originally intended, relying on the density of spores, to precipitate some material in them (by mordant methods or otherwise), which would not be washed out by subsequent solvents or differentiating agents. The methods suggesting themselves for this purpose were: (1) Exposure to heat, and (2) the use of various mordants and dyes.

**EFFECTS OF EXPOSURE TO HEAT**

Assuming that mold spores were more resistant to heat than the scrapings in which they were contained, it seemed possible by exposing them to heat long enough, to scorch scrapings to a greater degree than the spores and thereby produce a differential picture. The heat effects were first tried on pure cultures of laboratory saprophytes.

*Material and Method.*—Coverslips were cleansed in alcohol to render them fat free. They were then placed on a flat surface. One small drop of water was placed on the center of the coverslip; to this a loopful of spores was added and then spread over its surface. It was grasped between the thumb and forefinger and gently warmed over a Bunsen burner until dry. After all moisture had evaporated the coverslip was grasped with a Stewart's forceps and passed through the flame, right side up until the spores were scorched to a light brown color. The best results were obtained by passing the coverslips

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*From the Laboratory of Dermatological Research, University of Pennsylvania, under the supervision of Dr. Fred Weidman.*
through an arc of about 12 cm., the center of which cut the Bunsen burner flame, 11 cm. in height, about 3 cm. below its tip, each pass requiring one second for its completion. At the end of thirty seconds (or the same number of passes), the spores were mounted in balsam and examined microscopically.

By this method the spores and mycelia were all scorched to a brown and were clearly discernible. The spores contained a reddish refractile granule which made them quite characteristic.

Scrapings containing spores were next examined. It was necessary to tease the scrapings to smaller pieces with dissecting needles in order to have a more uniform exposure of the spores to the heat. By this method the spores appeared as small, dark brown globules both outside and inside the mycelia, and those contained in the mycelia were much darker in contrast to the refractile mycelia which stood out conspicuously when examined under high power.

This method being so simple and requiring so little time for its completion, deserves to be considered when a hurried diagnosis is to be made.

**USE OF MORDANTS AND DYES**

This problem was first attacked from the standpoint that a mordant could be used to penetrate the spores, and with subsequent washings the solution used could be washed from the scrapings and not from the spores.

*Material and Method.—* In these experiments were used: (1) pure cultures of laboratory saprophytes; (2) spores and normal scrapings together, and (3) scrapings containing spores.

Pure cultures of spores were placed in a drop of water on a cover-slip, then scattered over its surface and slowly dried by heat, as in the method previously described.

*Mordants Used.—* 1. A 10 per cent. solution of silver nitrate was used from one to ten minutes to stain spores, after which they were washed in water and dried. Other spores were immersed in pyrogallic acid from one to five minutes after the silver nitrate was washed off, but showed little improvement. The spores stained a yellow, brown or black depending on the length of time they were exposed to the silver solution. No differentiation was possible with the spores in the scrapings.

2. Ferric chlorid solutions were used with potassium ferrocyanid solution for staining periods lasting from one to ten minutes. The pure culture of spores took a slight blue color; otherwise little was accomplished.
3. Mercuric chlorid followed by potassium iodid in solutions proved absolutely valueless.

4. Zinc iodin stain, used by botanists, was worthless.

The mordant methods in general will color the spores and scrapings to about the same extent in the short time allowed for their action. It is quite likely that a permanent color is desired and the time required for staining becomes a secondary matter that a differentiation could be obtained.

Dyes.—(1). Methyl violet alone stains spores deep purple or violet and in this way is satisfactory, but it also stains scrapings (keratin), etc., and is not per se differential.

(2). Carbolfuchsin stains spores deep red. Mixtures of both solutions produced so slight a differentiation (the blue predominated in the spores and the red in the scrapings) that they were useless for our purposes.

(3). Loeffler's methylene blue and (4) Leishman's stain were substituted for the methyl violet, (5) eosin for the fuchsin, with no better success. (6) Besson's stain was tried. This appeared to have some selective action for the spores in that they were stained a dark blue and the tissue a pale blue. It was fairly satisfactory.

The method employed:

1. Besson's, two minutes, excess water poured off.
2. Washed in water from one fourth to one half minute.
3. Decolorized in 95 per cent. alcohol, one half minute.
4. Washed in water, one fourth minute, to remove excess alcohol.
5. Dried by heat.

(7). Mixture of Besson's and carbolfuchsin was tried, but the differentiation was not sharp.

As gentian violet (in the Besson's combination) seemed to have a selective action for the spores and mycelia, it was tried in various percentages. Its use on (1) spores only, (2) spores and scrapings, and (3) ringworm fungus contained in scrapings, demonstrated it to be a satisfactory spore stain.

The next problem was to find a satisfactory stain for the scraping substrate. The stain which eventually proved to be the best in this case was orange G. Satisfactory results were obtained with: Solution No. 1, saturated alcoholic solution of gentian violet, 9; distilled water, 91. Solution No. 2, orange G, 2; alcohol, 95 per cent., 20; distilled water, 80.

1. Stain with No. 1 one half minute; pour off excess.
2. Immerse in 95 per cent. alcohol, one half minute.
3. Immerse in distilled water one fourth minute to remove excess alcohol.
4. Counterstain with No. 2, one fourth minute, pour off excess.
5. Immerse in 95 per cent. alcohol, from one fourth to one half minute.
6. Immerse in distilled water from one fourth to one half minute.
7. Dry over flame.
8. Mount in balsam.

This brings out the spores as a deep blue and the scrapings as a yellow or deep orange. If the scrapings containing the spores be teased sufficiently, this sharp differentiation occurs, but when the spores are embedded too deeply in the scraping the time allowed for this method is hardly sufficient for them to take the stain at all.

As these stains proved quite satisfactory the next step was to combine them and simplify the method. It was hoped that a combined stain could be made which was strong enough in gentian violet to overstain the specimen and then by immersing in alcohol, the excess gentian violet would be removed from the tissue and leave only the blue spores in a field of orange. Various percentage combinations were tried, but with all, very little orange G remained after the preparation was decolorized in 95 per cent. alcohol long enough to remove all of the gentian violet from the scrapings. The specimen was decolorized in different percentage strengths of alcohol, but with no better success. It was then found that by making the solution alkaline all of the orange G was removed, and by making the stain distinctly acid with acetic acid, the orange G was retained.

The formula that gave the best results is saturated alcoholic solution of gentian violet, 2.5; distilled water, 17.5; orange G solution (No. 2), 9; chemically pure acetic acid, 1; alcohol, 95 per cent., 5.

The method used was:

1. Place scrapings in small drop of water on cover slip.
2. Tease thoroughly with dissecting needles.
3. Dry over flame, being careful not to scorch.
4. Stain two minutes, pour off excess.
5. Immerse in 95 per cent. alcohol, from one fourth to one half minute.
6. Immerse in distilled water, from one fourth to one half minute, pour off excess.
7. Dry by heat.
8. Mount in balsam.

The spores and mycelia take the blue, and the scrapings the yellow. Normal scrapings were used repeatedly and stained by this method, but no gentian violet remained in the specimen; nothing simulated mold spores.

This stain brings out the spores very clearly when free in the tissue, but when they are within the mycelia, as in tinea cruris and circinata, the gentian violet will penetrate very little or not at all. The mycelia, even in these cases, will appear as pale yellow refractile strands traversing the field, and are easily recognized.
In examining hairs, it is necessary to tease the scrapings from the hair to a certain extent, in order that the stain can penetrate more easily. Tinea capitis may appear violet rather than the deep blue of the versicolor spores.

CONCLUSIONS

1. Heat may be used to identify the presence of spores in scrapings.
2. An acidulated solution of gentian violet and orange G makes a differential spore stain which may be manipulated with the simplest technic, requiring only five or six minutes for the finished preparation.
URTICARIA PROBABLY DUE TO SYPHILIS

CLINICAL REPORT

LESTER HOLLANDER, M.D.

PITTSBURGH

The report of the following two cases is of considerable interest, as in the present literature no pruriginous lesions have as yet been attributed to syphilis, and because in both cases the finding of syphilis was incidental as the patients consulted me on account of local, edematous, evanescent, papular, wheal-like, extremely itchy lesions, appearing and disappearing, which disappeared entirely under antisyphilitic medication.

REPORT OF CASES

Case 1.—History.—F. L. K., a girl, aged 5, fairly well developed, weighing 48 pounds, of light complexion, was referred to me in June, 1918, concerning a number of extremely itchy, urticarial lesions appearing on exposed surfaces. These lesions were from 4 to 6 mm. in diameter, round, sharply defined and felt hard to the touch; they were white and edematous, and were surrounded by an area of hyperemia of from about 0.5 to 1 cm. in width. When irritated by rubbing, these lesions increased to a considerable size. They could be found in fair numbers on the face, hands, forearms and about the knees, where the socks did not cover the limbs.

The patient's mother stated that for the last three years these lesions appeared and disappeared and attributed their occurrence to direct currents of air hitting the child, an observation which I could verify at least to a degree. After having the patient in a quiet room for one hour all lesions disappeared; then by placing her in front of an electric fan the small, whitish, papular lesions reappeared with an area of hyperemia surrounding them. As this condition was of three years' duration the patient had received a good deal of local treatment and different diets from the various physicians who had attended her, without any appreciable amount of improvement.

The patient's past medical history showed that the child had been unusually healthy and with the exception of having pertussis at the age of 1½ years, which was followed by pneumonia, she has been well all her life.

Family History.—The patient is the first child, conceived two years after marriage. During gestation, her mother had a chronic ulcer on the nose, which was months in healing and left a large, white, glistening scar, with an area of pigmentation and considerable disfigurement of the anterior portion of the nasal cartilage. The mother had no other trouble at that time. The occurrence of sore throat, ulcers in the mouth and eruptions on the skin were all emphatically denied.

Two years after the birth of the patient, the mother had another child, who died two hours after birth; the cause of death was unknown; the mother had no other conceptions. The father denied venereal infection.
Course and Treatment.—The patient's family history was so suggestive that a blood Wassermann test was made and found to be +++++ to acetone insoluble lipid and cholesterolized antigen.

The patient was placed on mercurial inunctions and mercury with chalk, by mouth, and about two months after instituting treatment all signs of urticaria entirely disappeared.

The patient being continuously on treatment is observed every two weeks and has had no return of urticaria at the present time.

Case 2.—History.—E. A. S., a man, aged 38, single, a clerk, weighing 134 pounds, 5 feet 7 inches tall, of light complexion, consulted me in August, 1918, concerning an itchy eruption on the forearms and limbs which was of about seven years' standing, appearing and disappearing, seemingly without cause.

The previous medical history showed that the patient had rubella, pertussis, scarlatina and varicella during his childhood. He had gonorrhea at the age of 20 and again at 23; concurrently with his second gonorrheal infection the patient had an ulcerative lesion on the penis, which was treated locally. He thinks that at the same time he had sore throat and ulcers in the mouth, but is uncertain. The family history was entirely negative.

Examination.—The individual lesions were produced by rubbing or other irritation of the skin and consisted of circumscribed wheals, whitish pink in color, lasting from one-half to one hour, and extremely itchy, especially when the patient was overheated. He could mention nothing in his diet or daily regimen which brought this urticarial condition about or which would aggravate it when present.

The digestive apparatus, including the teeth, which were roentgenographed for evidences of focal infection, and examination of the gastric contents and of the feces, showed nothing abnormal. The tonsils were found to be normal. There was no other skin eruption. The Wassermann reaction proved to be +++++ to acetone insoluble lipid and cholesterolized antigen.

Course and Treatment.—The patient was placed on arsphenamin, 0.6 gm., by intravenous injections, weekly for a period of ten weeks, then weekly injections of mercury, salicylate, 1 grain, for ten weeks.

After six weeks of rest the patient's Wassermann reaction still continued positive, and he is at present on the third course of the above described medication. His urticaria disappeared within the first four weeks of antisyphilitic medication.

Conclusion

Syphilis may produce urticarial skin manifestations.

Urticaria may at times be due to syphilis.

Two cases of urticaria were cured by antisyphilitic treatment.

Jenkins Arcade Building.
UNIVERSAL EXFOLIATIVE DERMATITIS FROM SODIUM CACODYLYATE

WILLIAM ALLEN PUSEY, M.D.

CHICAGO

I recently observed a case of universal exfoliative dermatitis following injections of sodium cacodylate which was exactly analogous to similar cases following arsphenamin injections.

REPORT OF CASE

A druggist, a man aged 51, had had psoriasis for four years. The first attack cleared up under roentgen-ray treatment, and the second attack, two years later, was treated with roentgen rays and cleared up after four months. The present attack began two months ago. For this he had several roentgen-ray exposures, the last one about June 1. When he came under my observation, July 15, no signs of roentgen-ray effects were observable.

The first of June he went to a sanitarium for treatment of the psoriasis. There he had baths and special diet and the sort of routine treatment that sanitariums are apt to give in skin diseases. In addition he was given ten or twelve daily injections of sodium cacodylate, each ¾ of a grain. About June 22, a few days after the last injection, a redness of the skin appeared, which quickly became universal and developed to the degree which he showed three weeks later when he came into my hands.

At that time he presented a picture of a severe universal, dry, exfoliative dermatitis, quite similar in appearance to the Hebra type. The condition was absolutely universal. The skin was thickened, inelastic and red, and scaling profusely. On the hands and feet, the process was particularly intense. There was extreme hyperkeratosis of the palms and soles, and the condition was only less pronounced on the backs of the hands and feet. There was a good deal of burning of the general surface, and there were tenderness and discomfort on surfaces exposed to pressure.

He had been confined to his bed for two weeks previously, during which time he had shown an afternoon fever of from 101 to 102 degrees. He was much weakened and depressed but had not lost flesh. During the month he was under my care, being in a hospital most of the time, he showed some improvement. The hyperemia and the discomfort diminished, but the improvement was very slow. I should say the prospect is that ultimately the condition will disappear except perhaps for arsenical palms and soles.

The man's physical history was without significance. He had been in good health and, except for an attack of cystitis a few years ago, had had no important illness. He showed no evidences of any sort of sensitization and he gave no history of attacks of urticaria or erythema.

COMMENT

In my opinion, there are occasional cases in which the skin is hypersensitive to arsenic. I have seen one case of arsenical palms which followed injections of very small doses of arsenous acid (about ¼ grain) given as a tonic for about a week. Apparently,
cases like this and the one herewith described are an expression of unusual susceptibility to arsenic. Such cases indicate a danger which the indiscriminate use of arsenic entails, and with which the profession apparently is not generally familiar. They constitute another reason why arsenic should not be given indiscriminately, as it so often is, in skin diseases.
EDITORIAL

DEATH'S TOLL AMONG AMERICAN DERMATOLOGISTS

During the past year and a half death has taken a heavier toll of American dermatologists than during any other similar period. First we lost Johnston, then Heidingsfeld, then Harris, and then, close together, Zeisler and Stellwagon. These men were all upstanding figures, and their deaths mean a real loss to dermatology. Each of them represented something in dermatology that was peculiarly his own; each did something for the specialty, and has left it better because of his participation in it.

It cannot have escaped common observation that the personnel of American dermatology is rapidly changing. Until a few years ago it was the happy boast of the American Dermatological Association that nearly all of its original members were still living, and most of them were active in its proceedings. Duhring, White, Taylor, Hyde, Piffard were then alive, and naturally dominated the Association as they did American dermatology. These men were literally pioneers of the specialty in this country. They were its founders and had been powerful agents in its development. They had seen it grow from an unrecognized department of medicine to one of its strong specialties, and they were justified in feeling that in this growth they had been largely instrumental. Now they are gone, and with them others who represented the elder members of the second generation—Morrow, Jackson, Stellwagon, Zeisler.

The passing of these men means that we are reaching an epoch in the personnel of our specialty. The effects of this change are most readily observed at the meetings of the American Dermatological Association where they were wont to gather. These meetings are entirely changed. New men now lead and new voices direct the discussions. Fortunately, the pioneers have left strong and vigorous traditions, which the present workers in American dermatology should resolve to maintain. We of this generation have been given a specialty whose scientific and ethical standards are high. If we keep it on the plane to which our elders raised it, we may feel a worthy pride in the fulfillment of the responsibility which has been handed to us.

It is the physician's fate soon to be lost to memory. Some of his work, and with it his name, may remain, but the memory of the man himself is soon lost. It will be a misfortune if the memories of the
personalities of some of our pioneers disappear with the generation that knew them: the precise, scholarly, dignified White; the careful, urbane, gentle Duhring; the robust and forceful Taylor; the suave, genial, energetic Hyde; the ingenious and original Piffard. Who that knew these men but must wish that a knowledge of their personalities might be transmitted to succeeding generations of workers in the specialty which they founded in this country?

W. A. P.
JOSEPH ZEISLER, M.D.
1858-1919
Obituary

JOSEPH ZEISLER, M.D., 1858-1919

On Aug. 31, 1919, his colleagues and friends were profoundly shocked to learn of the sudden death of Joseph Zeisler. In his demise there has passed from us one of the few remaining dermatologists of the old Vienna school. Joseph Zeisler was born in 1858 in the town of Bielitz, Austrian Silesia. He was graduated in 1882 from the University of Vienna and from the time of his graduation until 1884 served as an intern in the Vienna General Hospital, where he came under the influence of Kaposi, whose teachings played an important rôle in the choice of his special profession. After his special studies were completed, he came to the United States and entered the practice of medicine in Chicago in 1884. Four years later he was appointed professor of skin and venereal diseases at the Post Graduate Medical School. He filled this position until 1889, at which time he was appointed to the chair of skin and venereal diseases at Northwestern University, a position which he filled with distinction until 1917, when he retired as emeritus professor. Practically all positions of honor in dermatology have been filled by him at some time during his life. He was chairman of the Section on Dermatology in the American Medical Association in 1912, president of the American Dermatological Association in 1903, and twice president of the Chicago Dermatological Society. In addition to his connection with Northwestern University, he was chief dermatologist to the Mercy, Wesley and Michael Reese Hospitals and to the South Side Free Dispensary. For many years treasurer of the Chicago Physician's Club, he acted as its president from 1916 to 1918. He was a member of the City Club, Literary Club and Cliff Dwellers' Club of Chicago.

Dr. Zeisler leaves a widow, Theresa Feuchtman Zeisler, and three children — Dr. Irwin P. Zeisler, Mrs. Anita Zeisler Mayer, and Doris Josephine Zeisler.

In Zeisler's death American dermatology has sustained a real and lasting loss. He was a man of broad culture which extended far beyond his chosen field of cutaneous medicine. By reason of a forceful personality, a keenly analytic mind and an abundance of common sense he took a prominent place among the leaders of dermatologic thought in this country. His written contributions are known and quoted in all texts. They number over thirty-six publications, many of which were original observations, and all show the dominant traits
of his character — directness of thought, a search for truth and ability to unravel the skein of complexity in any problem and to find the kernel of truth therein.

Of his many publications, those deserving of special mention are his articles on "Impetigo Herpetiformis," on "Trophic Dermatoses Following Fractures," "Angio-keratoma," "Arsenical Zoster," "Observations on Pemphigus," "Trophic Affections of the Nails," and many useful articles dealing with problems of therapy and diagnosis of syphilis.


To his colleagues, Zeisler will always be remembered not only as an eminent dermatologist, but also as an engaging, fascinating personality. His peculiar directness of thought led him to be selected on numerous occasions to sum up scientific discussions, and on these occasions he was particularly forceful. As an after-dinner speaker and on public occasions his keen sense of humor, ironic yet kindly, and his vast knowledge of the classics, music and poetry, made him incomparable in this rôle. Well-known as a public citizen, admired by his colleagues on public and semipublic occasions, it was in the delightful charm of his home life that his friends will remember Zeisler best and miss him most. Surrounded by his talented family, his house was a Mecca for lovers of music and the fine arts. An evening spent in Zeisler's home and partaking of his delightful hospitality was a never-to-be-forgotten event by those privileged to enjoy his friendship.

Joseph Zeisler is gone. His colleagues and associates will always have with them the heritage of his keen mind and of his dominating personality; his many friends will ever cherish the memory of his delightful, lovable nature, the breadth of his culture and his useful and all too short life.

U. J. W.
Correspondence

EPIDERMOPHYTON INFECTION, "EPIDERMOPHYTOSIS"

To the Editor:—I hope Dr. White [The Question of Epidermophyton Infection (A Problem in Dermatological Diagnosis), J. Cutan Dis. 37:50 (August 1919)] will pardon my suggesting, from personal knowledge, additions to his limited "etiology" of the above condition. Sources of infection may be "laundered" clothing, perhaps "issue" clothes in the army, a toilet seat—femoral cases; borrowed or rented bathing suits, a borrowed slipper, bathing in streams or city swimming pools; possibly marital contact (one case). Athletes' "jock straps" are another source of infection.

The disease as affecting the toes and feet is almost endemic, its diffusion seeming undoubtedly due to infection from the floors of public baths and occurring in families who use the same bath rug. This latter method of contraction is particularly menacing in boarding houses.

I believe my use of the name "epidermophytosis" (Skin Diseases at an Army Camp, J. Cutan Dis. 37:456 [July] 1919) properly designates this disease.

M. B. Hutchins.
Abstracts from Current Literature

PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE
(August, 1919, Vol. 12, No. 3)

PIGMENTED HAIRY MOLE BENEFITED BY IMPETIGO CONTAGIOSA. Alfred Eddowes, p. 47.

CASE FOR DIAGNOSIS. E. G. Graham Little, p. 47.

A persistent condition affecting the fingers and toes was present, characterized by swelling, pain and tingling sensations in the areas noted. The nails were also swollen, and the extremities of the nails were whitened. The one that presented the case thought that it probably belonged in the acrodermatitis neutrota group.


This condition first appeared as freckles that subsequently became spots below the left internal malleolus, later they appeared at the same location on the other ankle. Pain was a prominent symptom for two years when ulceration occurred, and pain ceased. Purplish vascular growths were not a prominent feature of the case. Early lesions showed a pigment deposited all through the dermis, laid down usually between the cells, as linear collections of tiny granules. There were also some perivascular infiltrations of round and spindle cells. The more advanced lesions showed practically the same changes, but they were more marked; and the author offered the opinion that the histologic features conformed with inflammation rather than with new growth.

CASES OF ERYTHRODERMIA WITH LYMPHATIC LEUKEMIA. J. H. Sequeira, p. 54.

CASES OF LICHEN PLANUS ANNULARIS. J. H. Sequeira, p. 57.

CASES OF TRICHOHRREXIS NODOSA. Mrs. Addison, B.S., Lond., p. 59.

ANGIOMA SERPiginosum. A. M. H. Gray, p. 60.

A girl, aged 4, presented eruption extending from the junction of the middle and lower thirds of the left leg to above Poupart's ligament. The condition was present at birth as a small spot which gradually spread. Early lesions were angular papules overlying small vascular points. Older lesions showed clear centers, the edges being raised and being composed of dilated capillaries. In the other lesions, the edges had a keloidal appearance although no induration could be felt on palpation.

LUPUS ERYTHEMATOSUS. A. M. H. Gray, p. 62.

This case involved lesions on the face and hands, the latter being unusual, in that they had the appearance of old roentgen-ray burns.
KERATOSIS FOLLICULARIS. J. L. Bunch, p. 67.

This was a case of unusual extent. It was noted with interest that a daughter had the same disease.

DELHI BOIL. Henry MacCormac, p. 70.

Three lesions appeared during three years following "service in Mesopotamia." The older lesions were about the size of a half crown, showing central ulceration and crustings with a considerable surrounding infiltrated and erythematous area. The latest lesion presented a pea-sized induration without ulceration. No pain was experienced except just before ulceration occurred. A smear from the pus revealed numerous examples of Leishmania tropica. Ionization with sodium hypochlorite was mentioned as the most promising form of treatment.

Guy, Pittsburgh.


Macdonald reviews the progress of the case he first reported in the New Zealand Medical Journal in August, 1891. The disease started at the age of 2 as a hard lump about the middle of the left sternomastoid muscle. This disease gradually involved all the skeletal muscles, including the facial muscles, so that the patient could neither laugh, nor take food. She has been unable to be about for the last twelve months. The internal organs did not seem to be involved. She died suddenly of heart failure and general weakness.

A STUDY OF THE DISTRIBUTION OF BAGDAD BOILS ON THE BODY MADE WITH A VIEW TO DISCOVER THE TRANSMITTING AGENT. H. W. Acton, Indian J. M. Res. 6:262 (Jan.) 1919.

Symptomatology.—The incubation period is from one week to several months. One of several pimplles appear on the skin of the uncovered parts of the body. In appearance these papules are very similar to an inflamed sandfly bite. These spots instead of fading away, become hard and shotty and are surrounded by an inflamed bluish areola which becomes indurated. The induration grows to the size of a pea, and is invaded by the skin saprophytes, causing deep ulcers, sharply cut, but with an irregular jagged outline; the floors of these are irregular and are formed by yellowish gray granulation. The ulcers are indolent. The nonulcerative granuloma is the other type seen, but it is rare. In this case there is no secondary infection, hence, no ulceration.

Distribution.—The distribution of 517 ulcers in which Leishmania tropica were found, were studied by the author. He found the distribution of the ulcers to be limited on the face and neck as far down as the opening of the shirt; on the arms as far as the sleeves are rolled up, rarely on the trunk; on the leg in two places, on the outer side of the exposed knees and on the exposed ankles and dorsum of the foot. The places where the skin is thin and hairless are selected.

Conclusions.—1. That Bagdad boils are found only on exposed parts of the body, suggesting that the transmitting agent is some blood-sucking diptera, and not other blood sucking insects, for example, louse, bug, or flea.

2. That the boils are rarely seen on the trunk, as the region is rarely left uncovered.
3. That the boils are chiefly found on the hairless areas of the skin suggesting that the proboscis of the diptera is small or not very penetrating.

4. That the boils are twice as common on the arm as on the face or leg, indicating that the area is exposed to double the chances of infection.

5. The distribution of these Bagdad sores corresponds more closely with sandfly bites than with the bites of other blood-sucking diptera.

6. The sandfly bites only on the exposed parts of the body and prefers to bite on thin hairless areas of the skin in these situations.

7. During the daytime the sandfly bites the arms and legs and during the night when the patient is lying down it bites the exposed face and hands, thus accounting for the frequency of the Bagdad sore on the arm area which is twice that of the face or leg.


Denny presents unusually good photographs of this affection.

GUTIERREZ, Manila.

NEW NOTES ON THE ECZEMAS. L. BROCQ, Ann. de dermat. et syph., No. 2 (Dec.) 1918.

Brocq divides eczema into two classes: First, the vulgaris type, composed of two subvarieties: dry eczema and fissured eczema; second, papulovesicular eczema, including primary nummular eczema. Parakeratosis psoriasiformis, frequently observed in the bends of the elbows, backs of the knees, or beneath the breasts, may be added to this classification. In its early stages the symptoms of the disease are of a uniform character; later on, the eczematoid dermatoses become very complex as the result of the juxtaposition and superposition of two or more types of lesions. In order to differentiate true eczema from the many hybrid dermatoses resembling it, one should carefully observe the appearance of the lesions in their primary state, thereby enabling oneself to differentiate them when associated with other hybrid forms. In the author's opinion seborrheic eczema, caused by the Staphylococcus cutis communis, differs entirely from eczema and should not be classed with it. Gastro-intestinal fermentation, autointoxication and nervous shock are among the etiologic factors in the production of the papulovesicular variety. In the parakeratoses psoriasiformis there seems to be an excess of nitrogen secretion.

ACANTHOSIS NIGRICANS OR MELANOTIC CANCEROUS PAPILLOMATATA. Dubreuilh, Ann. de dermat. et syph., No. 2, 67 (Dec.) 1918.

Dubreuilh reports an extensive case of this disease with general adenopathy and cancerous involvement of the stomach, mesenteric ganglions and suprarenal glands.

DERMATOLOGIC MALINGERING. Courtois-Suffit and L. MIRIEL, Gaz. d. hop. 92:541 (June 7) 1919.

The authors state that in July, 1917, cases of simulated dermatoses amounted to 30 per cent. of hospitalized patients in an institution in which they were located. They occurred most frequently among convalescents, ex-convicts, those hospitalized for analogous cases, and among those living in the region in which the hospital was located. The lesions occurred most frequently in places access-
ible to the right hand, namely, the right leg and left arm. Lesions of the right arm and of the back were extremely rare, necessitating the use of an accomplice. The superficial lesions were obtained by means of friction with the nails, etc. The deep lesions were caused by the injection of gasoline or croton oil, or the irritation of the superficial lesions with carbid of calcium. The lesions were kept irritated with the finger nails or by means of caustic applications. The superficial lesions were erythematous, vesicular, bullous or pustular. The deep lesions were large or small ulcers, with dry adherent necrotic centers. "the necrotic chronic ulcer of Dubreuilh."

ALLERGY IN SYphilis OF THE NERVOUS SYSTEM. Babonneix. Gaz. d. hôp. 92:802 (Sept. 6) 1919.

The author discusses past and present theories, but presents nothing new.


This is a report of work done during the year at this center, with a discussion of venereal prophylaxis.


Burnier states that the gonococcal chancres are habitually located on the glans, particularly in the neighborhood of the meatus. They occur as superficial, oval or circular erosions, with red, glistening surfaces. At times, the lesions appear as more or less deep ulcers, with sharply cut walls and basal induration. A unilateral or bilateral inguinal adenopathy, with or without suppuration, completes the marked simulation of a syphilitic chancre. He reports the case of a patient with such a lesion, with no urethral symptoms. Dark-field examinations for spirochetes were negative, but gonococci were found in abundance. Occasionally the floor of the ulcers is yellowish gray and their borders are soft, greatly resembling chancroidal ulcers. A dorsal lymphangitis and inguinal bubo complete the picture. A case of this type, with absence of Ducréy's bacillus, but presence of gram-negative diplococci is reported. Burnier states that a diagnosis of gonococcal chancre can only be made with a microscope. He reports two cases of mixed infection, one of syphilitic and gonococcal chancre; the other of chancroid and gonococcal chancre. In the majority of cases the diagnosis of blennorrhagic chancre is facilitated by the presence of a urethral discharge, but in certain cases of the disease this is entirely absent.


A pathologic study of the organs of fifteen old dogs with the observation of multiple tumor formations in all, and the failure to find such pathology in hundreds of young dogs, led these observers to conclude that senility and the regressive cellular changes incident with reduction in functional activity, predispose to the formation of new growths. The explanatory hypothesis is to the effect that an organ, nearing its end of functional usefulness to the
body mechanism, undergoes involution and in this involutional state frequently strives to perpetuate its own life as an independent unit by an active proliferation of atypical cellular tissue. The widespread distribution of these neoplasms, their uniform and coincident occurrence; their multiplicity in the organs involved and a similarity in their mode of formation and growth led to the inference of a common cause which these investigators believe to be old age. The new growths observed were benign but the evidences of rapid and invasive growth suggested potential malignancy.


The case reported was that of a syphilitic negro with a complete heart block as shown by the electrocardiogram and the electrophonogram. The ventricular rate was 15, the auricular rate 130 beats per minute. Necropsy showed a nodular opaque mass 1.5 by 3 by 4.5 cm. in size, occupying the upper portion of the interventricular septum. Wassermann tests of the blood and spinal fluid on admission to hospital and at postmortem were negative, but a diagnosis of tertiary syphilis with gumma of the septum was based on apparent syphilitic changes in the liver, testes and tibiae and the characteristics of the lesion in question.


The writer, after careful histologic study, concludes that the opacity of the lunula is not conditioned by any peculiarity of the structure of the nail itself or of its matrix, but is the result of a reflection of the light at the surface of the junction of the matrix and the connective tissue portion of the nail, the matrix not being adherent to the connective tissue stratum underlying the lunula as it is elsewhere.


Alcoholic sodium hydroxid is recommended as a clearing solution to obtain special sharpness of cell detail particularly desirable for photomicrography. The clearing action is explained as due to a partial transformation of protein into less opaque alkali albuminate. The procedure is explained in detail.

H. R. FOERSTER, Milwaukee.


The writer calls attention to the common occurrence of this condition, and states that it does not differ from any other form of postfebrile alopecia.


The modern methods of performing the Wassermann test are today far more sensitive than those which were used in the early days of serologic diagnosis. At best our laboratory methods are crude means to detect chemical
and physicochemical changes taking place in the cells of the body after infection. As a diagnostic aid, the Wassermann test still stands as our greatest aid, but as a guide to treatment, the writers assert that it does not prove to be accurate. Serologic and clinical cure are not necessarily parallel. Energy of treatment directed toward the end of attempting to make a persistent positive reaction negatively may well be not only useless but misdirected.


The fatality followed a dose of less than 3 grains of arsenic. Diarrhea and vomiting were absent during the course of the intoxication and nephritis was mild. The toxic symptoms seemed to depend on a faulty functioning of the skin. At necropsy arsenic was found in the liver, brain, skin and pericardial fluid.


The writer reviews the literature on the etiology of vitiligo, and concludes that the correct etiology is still unknown, but advocates a search for syphilis in cases of this disease.


Aside from syphilis, certain cutaneous disorders are at times accompanied by lesions of the mucous membranes. Represented in this group are lichen planus, erythema multiforme, dermatitis herpetiformis, pemphigus, lupus erythematosus, lupus vulgaris, herpes and impetigo herpetiformis; mostly dermatoses of constitutional origin. Other conditions less commonly affecting the mucous membranes are urticaria, angioneurotic edema, seborrheic eczema, acanthosis nigricans and the ingestion or application of drugs like antipyrin and iodin. Among the constitutional diseases which may show lesions of the mucous membranes are scurvy, leukemia, pellagra and pernicious anemia.


Diarsenol introduced directly into the blood of syphilitics did not alter the fragility of the normal erythrocytes; but it is possible that in the abnormal blood conditions, such as the hemolytic anemias, the introduction of arsenical compounds into the blood stream may increase the resistance of the red cells. The blood urea nitrogen is affected but little, if any, and there is no deleterious effect on the kidneys when the function is good previous to the injection.
ECZEMA FROM A DERMATOLOGICAL POINT OF VIEW. GEORGE M. MACKEE, Arch. Pediat. 46:221 (April) 1919.

This paper is mainly a discussion of facts which are known to play a rôle in the etiology of eczema. The writer shows that at least a fair proportion of the cases of eczema are partly, if not entirely due to external causes. In those cases where no external cause is discernible it is presumed that the skin is reacting to an irritant from within. Little is known to explain the susceptibility of individuals to eczema. There is no doubt that the external cause of eczema is closely associated with idiosyncrasy. This susceptibility may be natural and last throughout life or it may be acquired by the patient becoming sensitized to a toxin. It is possible that a toxic substance may enter the circulation and in this way affect the skin at a distance from the original focus.

Among the possible etiologic factors in eczema of internal origin, faulty diet, sensitization to certain foods or foreign proteids, nephritis, disturbances of the thyroid, and other internal glands are mentioned. Not infrequently internal and external causative factors cooperate in the production of eczema as in the case of kidney or heart disease with edema of the legs and with the lowered resistance of the skin to germ invasion, a little irritation suffices to start a dermatitis.

WAUGH, Chicago.

VIRULENCE OR ADAPTATION. WILLIAM H. WOGLOM, J. Cancer Res. 4:1 (Jan.) 1919.

While admitting that multiple spontaneous neoplasms vary in their proliferative energy, which term is used in preference to virulence, the writer concludes that the power of adaptation of the malignant tissue to the host is the deciding factor in the success or failure of a transplantation. The experiments were carried out in mice with multiple mammary mouse carcinomata.


Ewing calls attention to the frequent presence of arteriosclerosis in the neighborhood of carcinoma of the skin and mucosa, and to the fact that radium itself tends to produce a slow obliterative endarteritis which may result in late sloughing and indolent ulceration. Increased resistance on the part of tumor tissue with associated decreased resistance of normal tissue frequently follows protracted use of the roentgen rays.

In many instances of recurrent and metastatic malignancy, radium is beneficial when used as a palliative measure, and dangerous when employed with a view to producing a cure by destroying the tumor.

Reference is made to alterations in the type of tumors following radiation. malignant growths sometimes becoming benign and slow growing, at other times becoming more virulent. Constitutional reactions following large doses of heavily filtered radium are often referable to active necrosis of tumor tissue and to infection. In conclusion, the stand is taken that the most successful and the proper field for radium is in the strictly localized and therefore operable carcinoma.

The writers' experiments led them to conclude that about twice as much radiation is required to kill mouse cancer cells in vivo as in vitro, that being from seven to eight erythema doses applied at a single sitting.


Guinea-pig plasma, to which mouse serum and Ringer's solution had been added, was used as the culture medium for small pieces of mouse carcinoma and sarcoma. Soft, unfiltered roentgen rays, with spark gaps varying from 4 to 8 cm. were employed, and the quantitative measurements were made with a Hampson radiometer. Irradiated and control specimens were inoculated into the axillae of normal mice. The exposures used were the equivalent of \( \frac{1}{4} \) B, \( \frac{1}{2} \) B, and \( \frac{1}{4} \) B of a normal sphere (\( \frac{1}{4} \) B, \( \frac{1}{2} \) B, and 1 centimeter distance units). None of these doses inhibited the outspreading growth of the cultures, but the mitotic activity and power of growth after inoculation were markedly altered.

The control and irradiated cultures were studied for from forty-eight to ninety-six hours, the inoculated fragments for three weeks. Tissue exposed \( \frac{3}{4} \) B showed no difference from controls. Exposure of \( \frac{1}{4} \) B revealed an increased activity of the outspreading growth of the culture of the irradiated tissue, but no apparent alteration of mitotic activity or speed or rate of growth of the tumors produced by inoculation. Exposures of \( \frac{1}{2} \) B revealed normal or increased activity of the stroma cells in culture, but a considerable diminution in the number of mitotic figures and only from 16 to 60 per cent. "takes" after inoculation for carcinoma and from 35 to 85.7 per cent. for sarcoma, as compared with 100 per cent. "takes" in the controls. The tumors which developed from irradiated tissue reached only one-third the size of those from control inoculations. Exposures of \( \frac{3}{4} \) B revealed an outgrowth of cells in the cultures, but absence of mitotic figures and failure of growth on inoculation. The sarcoma cells showed greater stimulation after irradiation than did the carcinoma cells, otherwise there was no appreciable difference in reaction to roentgen rays on the part of these two types of neoplasms. An experiment on the effect of the roentgen rays on the metabolism of tumor cells as measured by carbon dioxid production, revealed stimulation of the process of oxidation with the same dosage that stimulated cellular activity, and a similar retardation following larger roentgen ray dosage.

CANCER IN HAINAN, CHINA. A PRELIMINARY STATISTICAL STUDY OF 131 OPERATIONS WITH SPECIAL REFERENCE TO AGE INCIDENCE, ANATOMICAL DISTRIBUTION AND ETIOLOGY. Nathaniel Bercovitz. J. Cancer Res. 4:229 (July) 1919.

The writer's statistical study in the locality referred to shows that cancer of the exposed surfaces of the body is very common and occurs at an early age incidence. He considers as etiologic factors exposure to sunlight and local irritation, because these people wear scanty clothing, work outdoors, practice counterirritation extensively, and have peculiar methods of treating ulcers.

The writer's figures for a six year period from 1911 to 1916 show a death rate of 2.5 per hundred thousand exposed, for cancer of the buccal cavity; and 1.7 per hundred thousand exposed for cancer of the skin. This mortality is bulked between the ages of 60 and 79 years, the skin cancers showing the highest relative mortality in extreme old age.

THE SIZE OF THE SPLEEN IN IMMUNE MICE. W. H. Woglom, J. Cancer Res. 4:281 (July) 1919.

The writer could find no experimental support for the hypothesis that there is a relationship between splenic hypertrophy and immunity to propagable neoplasms.


The writer's experiments support the contention that multiple new growths as found in the mammae of mice, are independent rather than metastatic.

H. R. Foerster, Milwaukee.


The writer continues his discussion of the cutaneous tuberculids and their relation to tuberculosis elsewhere in the body, twenty patients with papulonecrotic tuberculids and erythema induratum being treated with arsphenamin, although roentgen-ray treatment and constitutional regimen were used in conjunction.

Many of these patients had a definite tuberculosis, the lymphadenitis in nine cases being treated surgically without influencing the cutaneous lesions; in fact, the lesions in these cases recurred following complete surgical treatment and would seem to indicate a medical course of treatment combined with antituberculous hygiene and the use of the roentgen ray.

Arsphenamin was used with marked results on the cutaneous tuberculids. 53 per cent. being entirely cleared, and 12 per cent. showing no definite improvement. This treatment was also of benefit in producing a general improvement in the patients as evidenced by gain in weight and disappearance of other symptoms.

The roentgen ray is a valuable adjunct, but should be used combined with arsphenamin and a constitutional regimen, calculated to build up the resistance of the patient.


The case of anthrax reported is of interest on account of the treatment employed and the mode of contagion, which was traced to a new shaving brush.
The lesion appeared on the neck with the usual clinical features and systemic symptoms. Six days after the infection occurred 48 c.c. of anthrax serum was injected into the buttock, followed in twelve hours by an injection of 10 c.c. into the indurated tissues around the pustule; this was repeated in twenty-four hours. Forty-eight hours after the first injection, the induration had become reduced, and in twenty-four hours more had become much shrunken and had lost its red areola. Another injection of serum was given in the neck on that day, with 30 c.c. in the buttock the following day. Improvement was rapid and continuous, the patient being discharged cured four weeks after admission.

There was no blood invasion in this case; the anthrax bacillus was positively identified and the organism was recovered from the shaving brush which caused the original infection.

SCLERODERMA AND SCLERODACTYLIA; REPORT OF A CASE WITH ROENTGEN RAYS AND REVIEW OF LITERATURE. R. M. Atwater, Am. J. M. Sc. 158:29 (July) 1919.

The case reported was that of a patient who had stiffness in the shoulders, hands, arms, back and legs, each new area of thickening in the skin being preceded by an itching papular eruption which lasted for several days. A sister had a similar stiffness of the skin.

In addition to the usual sclerodermic changes in the skin of the face, neck, wrists, ankles and back, there was a moderate general swelling of the fingers with atrophy of the interossei, the ends of the fingers being thickened and shortened. Flexion was interfered with, owing to skin changes and not joint involvement. The Wassermann reaction was negative. The roentgen ray revealed bone atrophy and absence of the tips of the terminal phalanges of the second, third, fourth and fifth fingers of both hands and partial destruction of the same phalanx of both thumbs.


Boggs considers radium the best form of radiation both locally and over areas or centers of metastases, and considers it far superior to the most complete dissection, as it closes off drainage channels without any danger of opening the lymphatics. Chemical agents, actual cautery and electric coagulation are of value as adjuncts to radiation as they remove necrotic tissue, but they should not be used until lymphatic absorption is prevented by radiation.

Insufficient treatment is the reason why squamous cell carcinoma has not been cured in the past, the cells of this type requiring for destruction from two to four times as much radiation as those of the basal cell type.

All lesions that are persistently inflamed, scaly or degenerative after the patient is 40 years of age should receive prompt and thorough treatment, such lesions usually being warts, moles, cracked lip, leukoplakia, persistent patches of eczema, etc.

The author divides the lesions into four classes according to treatment: (1) those which can be cured by one application with correct dosage; (2) those in which glands are or may be involved and will require roentgen-ray treatment: (3) those in which treatment is merely palliative, and (4) those requiring excision or fulguration following radiation. As the virulence of epithelioma is in direct proportion to the richness of the lymphatic supply, the prognosis
and necessity for treatment will likewise vary, although in all cases treatment should be given as early as possible.

He believes that radium supplemented by roentgen rays will give results superior to surgery in epithelioma of the lower lip, as with the latter method there is frequently recurrence in the scar and it is impossible completely to dissect out all glands. All lesions around the mouth that are not syphilitic should receive radiation, but should never be cauterized superficially.

Advanced cases may require electric coagulation, which offers the advantage of surgical removal without hemorrhage and without opening up lymph channels and favoring metastasis.


This article gives the experiences of the authors in the clinic of a large hospital serving a large community, and discusses the treatment of syphilitics in clinics in which a nominal charge is made for salvarsan. The organization and management of such a clinic is given in detail, with table showing the relation of the Wassermann reactions to the number of cases given salvarsan and other treatment. Pregnant women treated here all had normal children who had not as yet developed syphilis.

A clinic such as the one here described is a great factor in the attack on syphilis in general, and is able at least to control all syphilitics that will attend regularly and that will continue to attend as long as required.


In the study of 231 cases of late syphilis at the Peter Bent Brigham Hospital, two tests were relied on in making the diagnosis—the spinal fluid cell count and the Wassermann test, using 1 c.c. or less of spinal fluid. All patients gave a positive spinal fluid Wassermann reaction with 1 c.c. or less of fluid and most of them had an increased cell count. One hundred and twenty-one cases were diagnosed as tabes, nine were syphilis of the cerebrospinal meninges, forty-five were general paresis, and fifty six were cerebrospinal syphilis. A very high percentage of these cases had strongly suggestive symptoms in the history or positive signs on physical examination, although many would undoubtedly have shown positive evidence on spinal fluid examination long before physical signs became evident. The routine Wassermann test on all patients was responsible for investigation of the central nervous system in a more thorough manner than usual; and the need is emphasized of more frequent examination of the spinal fluid in cases (in all old ones, in particular) that have positive Wassermann reactions, this procedure to be followed, especially before instituting any treatment.


1. Roentgen rays in large doses affect the lymphocytes before any of the other circulating cells.
2. There is a sharp fall in the total number of circulatory lymphocytes, which is complete forty-eight hours after roentgen-ray treatment.

3. Following the immediate decrease in the circulating lymphocytes, there is a primary rise, followed by another fall, which in turn is followed by a permanent rise of these cells to normal.

4. The effect of the roentgen rays on different species of animals varies considerably, but in those studied, that is, the cat, monkey, guinea-pig, rabbit, rat, mouse and pony, the selective action on the lymphocytes was in all instances apparent.

5. When several animals of the same species are given the same dose of roentgen rays, the effect on the circulatory lymphocytes seems to be quantitatively parallel, when determined by blood counts.

6. The polymorphonuclear neutrophilic leukocytes, when affected at all, increase in number immediately after the administration of the roentgen rays and then tend to decrease below their normal level. This decrease is followed by a return to normal many days before the lymphocytes reach their original level.

7. The other cells of the blood follow the neutrophilic curve.

8. Percentage figures, as determined by differential blood counts, do not give an accurate indication of the effect of the roentgen rays. It is only when these are multiplied by the total white blood count that a figure, representing the total number of cells of the series per cubic millimeter of blood, is obtained, which varies to the stimulus in a constant manner, the variations being practically quantitative.


This study consists of blood counts on nine rabbits after an exposure to roentgen rays of a 7 to 8-inch spark-gap; milliamperage, 25; distance from the target, 8 inches, and time of exposure, twenty minutes.

In seven of the nine animals, there resulted an increase of the circulating lymphocytes. In five of these, the increase was marked; and in two others definite, but not striking.

Of the two animals that showed no stimulation, one showed marked fluctuation of counts both before and after roentgen rays, and the other little or no change.

The higher penetrating dose (6-inch spark-gap; milliamperage, 5; distance from the target, 10 inches, and time twenty-six minutes and fifty-seven seconds) given to two animals, produced no appreciable stimulation.


The small dose of roentgen rays applied to the rabbit has no appreciable destructive effect on the lymphoid tissue. Indications of stimulation of the lymphoid tissue appear immediately after the treatment, become most pronounced in from two (in lymph glands) to four days in the spleen, and persist, in a slight degree, up to the fourteenth day. These facts suggest that the lymphocytosis induced by the small dose of roentgen rays is due to a primary stimulative effect on the lymphoid tissue of the animal.

These experiments indicate that the direct action of roentgen rays in more powerful doses than can be applied therapeutically is somewhat injurious to tumor cells, but by no means destroys them. Experiment also indicates that the cancer cells establish a resistance to the roentgen rays after repeated doses. This harmonizes with the experience of clinicians that have succeeded in checking cancerous growths for some time, but that have reached a point when no response can be effected by repeated doses. The rays of low penetration used in Experiment 2 are apparently more harmful to tumor cells than the penetrating rays used in Experiment 1.


The course, symptoms and treatment of this case are described in detail, the diagnosis being based on the character of the lesions, clinical course of the disease, histologic examination and the exclusion of tuberculosis, syphilis and other causes of granulomatous processes.

The authors are inclined to think this disease is a chronic infectious process, though not contagious, clinically resembling syphilis with its pyrexias and leukocytoses, being chronic and remarkably resistant to treatment, having a tendency to eccentric extension and presenting a histologic picture of a granulomatous process.

In this case at least, there was a predilection for certain areas of the skin and mucous membranes, affecting chiefly the perigenital and inguinal regions and the axillae, as well as the mouth and throat.

They think it possible that causative micro-organs could be situated peri-vascularly, as that is the location in which the infiltration of small mononuclear cells is most marked.

The exacerbations and remissions of the disease are strongly suggestive of and analogous to the course of some treponemal diseases, especially syphilis and yaws.

JAMIESON, Detroit.


This is an interesting case report. A boy, aged 15, who previously had had measles and four attacks of urticaria, had many of the symptoms of measles: there was considerable edema of the skin generally, with some vesicles and bullae associated with an intense rash. Desquamation began on the fourteenth day and involved practically the entire body surface, the epidermis separating in large sheets, some being several inches long. The etiologic factor could not be determined.

INTRAVENOUS INJECTION OF POTASSIUM IODID IN TABES DORSALIS. F. J. Devota, Lancet 196:339 (March 1) 1919.

This is an interesting report of a case of tabes dorsalis that failed to respond to neoarsphenamin treatment: three injections were given with no improvement or change in the severity of the pains in the legs. After three
intravenous injections of potassium iodid (30 grains dissolved in 4 ounces of physiologic sodium chlorid solution), the improvement was rapid. After an interval of two months there had been no recurrence of the pains.

A CASE OF GONORRHEA WITH ARTHRITIS AND KERATOSES. Norman P. Lang, Lancet 196:377 (March 8) 1919.

This is a case report of unusual interest: The keratoses were generalized, occurring on the body, extremities, in the mouth and on the genital organs.

CONTACT INFECTION OF CHICKENPOX. Frederic Thomson, Lancet 196:397 (March 8) 1919.

This is a report on the period of infectivity of chickenpox as studied under hospital advantages. There is some reason to believe that the contact infection of chickenpox probably ceases about the end of the first week of the eruption or at the beginning of the second. Further, that chickenpox may certainly be infectious by contact on or before the fifth day.

CHEMOTHERAPY IN CUTANEOUS TUBERCULOSIS. H. J. Gauvain, Lancet 196:412 (March 15) 1919.

This is a preliminary report of two cases of cutaneous tuberculosis treated with Dr. Ellis' brass paste. The results were entirely favorable and, in the writer's opinion, the method of treatment is worthy of an extended trial. A brief résumé is given of previous work done by German and French investigators with copper compounds in reference to their effect on tubercle bacilli and tuberculous lesions.


The author used a paste formed by combining basic copper sulphate and basic zinc sulphate in the proportion of 86 per cent. basic copper and 14 per cent. basic zinc. The combination is definite and chemical; it approximates an old formula for making brass. The length of time that the paste is left on the area involved depends largely on the depth of the lesion. The preparation is applied under zinc plaster every two or three days until the desired reaction is secured. There is apparently a selective action as the diseased tuberculous tissue is dissolved much more quickly than normal tissue structures. The author believes his results are such that they merit a further trial of the preparation.


The lecturer describes his personal experience with smallpox in Glasgow, 1871, when he was a young practitioner. The subject is treated in three sections: (1) Smallpox as it was and is; (2) vaccination as it was and is, and (3) control of smallpox in the present day.

The lectures are very interesting and many statistics are given which should be of great value to those interested in this subject. Special emphasis is placed on the importance of revaccination in controlling smallpox. The lectures are quite long, and not suitable for a brief abstract.
THE WASSERMANN TEST: A CRITICISM OF ITS RELIABILITY.

An attempt is made to criticize closely the accuracy of results secured in British military hospitals. The question is considered from two points of view: clinically and from the point of view of technic. The article is based on the study of 5,000 cases. The clinical criticism is favorable and shows nothing new of importance. In the criticism of technic the titration of complement in the prescribed antigen is emphasized. The complement from fifty guinea-pigs were tested and showed a marked difference in the way they were absorbed by the antigen. A number of interesting case reports are given. The article is of value in that it corroborates the value of the Wassermann test.

EXPERIMENTAL STUDIES WITH SMALL DOSES OF X-RAYS.

The subject matter of the article consists of experimental facts as to the effects of small doses of roentgen rays on the blood of rats and on their susceptibility to tumor implantation. An attempt is made to show the bearing of these facts on the present day treatment of malignant disease by means of roentgen rays. The authors describe in detail the experiments done and the apparatus used. Their conclusions are:

1. The natural immunity which animals usually have toward the inoculation of spontaneous tumors can be broken down by roentgen-ray exposure sufficient to cause the disappearance of the lymphocytes.

2. The acquired immunity which results from the inoculation of blood or other cells into normal animals can similarly be destroyed.

3. The acquired immunity which is found in animals in which tumors have disappeared can likewise be broken down.

4. Tumor cells from a foreign species, which on inoculation will only grow with great rarity, multiply rapidly in a roentgen-rayed animal, until such time as the depleted lymphoid system is well advanced in regeneration.

5. Acquired immunity is destroyed only so long as lymphoid cells are reduced in number.

6. In contrast to these actions an immune condition can be produced instead of destroyed by suitable doses of roentgen rays. Roentgen rays when administered to an animal, have therefore two actions, quite apart from their direct effect on a tumor.

   a. A large dose of rays by destroying the immune condition will favor the growth of a tumor.

   b. A small dose by producing the immune condition will help to control and may overcome the growth of a tumor.

The bearing of these facts on the radiological treatment of malignant disease in man appears to us to be as follows: Whenever a tumor is exposed to roentgen rays the lymphocytes circulating in the blood vessels of the growth and of the surrounding tissue will be irradiated, or if the site of operation be treated the lymphocytes in the normal vessels and tissues will be similarly exposed. It is clear therefore, that though the radiologist may be giving the primary growth the dose of radiation required for its disappearance, he may at the same time indirectly be encouraging the development of secondary growths by lowering the natural powers of resistance of the patient, especially
if this comparatively large dose is repeated at fortnightly intervals as in postoperative treatment.

It would appear profitable therefore to take all possible precautions to prevent the destruction of such cells as the lymphocytes, which, there is good reason to believe, play a defensive rôle in many varieties of malignant growth.


A comparison of diagnostic methods, treatment and the syphilitic clinic is discussed by the author. The work was done in the R. X. Hospital, Chatham, and some very interesting statistics are given. The author's conclusions are:

"With the systematic use of laboratory methods a certain diagnosis should be obtained in practically every case of primary syphilis. When a spirochaete search is negative a Wassermann reaction should always be employed. Clinical diagnosis is so uncertain as to be practically useless. This was recognized long before present methods, in the old teachings that syphilis should diagnose itself by the appearance of secondary signs. This old doctrine approaches malpractice, yet it is by no means dead."

The luetin reaction is useful in a few cases, in helping to decide whether an apparently early infection is not really of long duration. For an ordinary early case of syphilis two or three doses of arsphenamin or one of its substitutes, followed by a long and thorough course of mercury, is a good routine treatment.

When possible, the treatment should be controlled and followed by periodic examinations of the blood and cerebrospinal fluid when in a few instances the call for more intensive methods of treatment may be anticipated. The more cases treated at one center, the greater the economy and efficiency, and each medical officer should have in his own hands the laboratory as well as the clinical work. By this means the medical man dealing with syphilis should get a more balanced view of the whole problem than if he confined himself to either the laboratory or the ward.


This is a very interesting article which should be of special value to serologists. The authors discuss the sources of discrepancy in results and place emphasis on the fact that the complement is an important source of variation; since as was pointed out by Browning and McKenzie, there is no constant relationship between its hemolytic power and its capacity for being bound by the mixture of antigen and antibody.

Summary: 1. When the same specimen of syphilitic serum is repeatedly examined for complement fixation in the Wassermann test, the actual amounts of complement fixed vary greatly on the different occasions. These variations are quite irregular, and depend on factors which cannot, so far, be rendered constant.

2. This result prevents the attaching of clinical significance to minor variations in positiveness obtained on repeated tests of the same patient's serum, for example, under treatment.

3. The evidence shows that the criterion of positiveness or negativeness of a serum should not be determined by the absolute amount of complement fixed, but by the amount of fixation relative to that produced by a known negative serum.

**Waugh.** Chicago.
Mr. President and Members of the Society: As the oldest active member of this society (in point of membership) I have been asked to occupy a little time tonight in a backward look over some of its earlier years. Dr. Sherwell and I both joined the society in 1873. Since Volume 1 of our records has unfortunately been lost, it is difficult to tell the exact month when each joined, but I find that my name precedes his in the little book containing the Constitution and By-Laws which all of you have signed.

We have gathered tonight to celebrate an important event which occurred a little more than a half century ago, the birth of the New York Dermatological Society, the oldest organization of its kind in the world. Fifty years! It seems indeed a long period when taken out of an individual life although when viewed from a geologic or even an historic standpoint, it is but a minute fragment of infinite time. Fifty years ago! I imagine the words sound quite different to you who were unborn at that time than they do to the few of us whose memory covers a somewhat longer period.

Let us now go back in thought to that remote time and look around us for a brief moment. Fifty years ago! The profession of medicine was different then in many respects from what it is now although the men who practiced it were on the whole very much like the good, bad and indifferent doctors whom we know today. They were ignorant of many medical facts which are now regarded as of the highest importance but, on the other hand, they knew a great deal of various cognate sciences in which most of us would doubtless pass a wretched examination. The doctor of fifty years ago was interested in and knew something of chemistry, was a past master in materia medica, and was almost invariably a practical pharmacist. When practicing in the country he could give the botanical name and tell the medicinal qualities of every plant that grew along the roadside or in the woods or meadows. He was an expert in interpreting the peculiar sign language of the tongue and pulse, but was forced to make his diagnosis without any thought of the function of the ductless glands. He believed that cleanliness was next to godliness, although he had little or no conception of germs in the etiology of disease. Of the fundamental principles of modern psychoanalysis he was densely ignorant, but this lack was more than counterbalanced by an abundance of common sense. Apart from a familiar acquaintance with the eruptive fevers and a somewhat confused idea of itch and salt rheum, his knowledge of skin diseases was practically nil. Most of you gentlemen who glory in this special branch of medicine, who know so much—and yet so little compared with what might and probably will be known in the next generation
—can hardly realize the fact that only fifty years ago dermatology was taught in only one or two colleges in this country, and that the average practicing physician had never even heard of it.

In the foreign capital cities men like Hebra, Erasmus Wilson, Bazin and Hardy were devoting their lives to the study and teaching of this branch of medicine and among the students who came to them from all quarters of the globe were a few from the United States. To one of these, Dr. Faneuil D. Weisse, who had studied under and discussed the subject of an American society with Professor Wilson in London, the idea first occurred that a society could and should be organized in New York City for the study of diseases of the skin. As this idea was subsequently put into effect, it seems to me that it is no more than justice to recognize Dr. Weisse as the founder of our society.

Dr. Weisse evidently discussed his plan with a number of New York physicians, more or less interested in the study of skin diseases, which resulted in having a meeting called on Tuesday evening, May 18, 1869, at the house of Dr. Henry D. Bulkley, 42 East Twenty-Second Street. This call was signed by Drs. Faneuil D. Weisse, Henry D. Bulkley, Henry G. Piffard and Foster Swift. There were twelve physicians who attended this meeting of organization, including Drs. William H. Draper and Robert W. Taylor, whose names are inseparably connected with American dermatology, and others who may have been interested in dermatology at that time, but whose names are not generally associated with it, namely, Drs. A. W. Stein, G. A. Winston, F. Zinsser, H. G. Forbes, J. H. Ripley, Charles I. Pardee, S. A. Raborg and A. S. Hunter.

At this meeting, Dr. Zinsser suggested the propriety of combining venereal with skin diseases, but it was decided to restrict the object as well as the name of the society to dermatology. (In 1872, however, a new constitution and by-laws was adopted in which the object of the society was declared to be “the study of cutaneous and venereal diseases.”) A committee appointed at this meeting to draw up a constitution returned “in a short time” after retiring and submitted a constitution and by-laws which had evidently been prepared in advance of the meeting and which was adopted by those present. This document was soon after inscribed in a small black book and signed by twenty-seven men, none of whom is now living so far as I can ascertain, with the exception of Drs. Edward L. Keyes and Lucius D. Bulkley. As the modern high cost of living was unknown in those days, the initiation fee was placed at $2.50, and the annual dues made $2, payable in semi-annual sums of $1 each.

When I came to New York in 1873, and shortly after joined the society, Dr. Freeman J. Bumstead was one of its most prominent members. He was professor of venereal diseases at the College of Physicians and Surgeons, and held a high reputation as an author. He was a handsome man with a full dark beard, and of dignified and scholarly appearance. To those who knew him well, he was extremely genial. I met him first in Vienna where he came during a long vacation, and where he was not too proud to sit with several of his former pupils on the front bench in Hebra's clinic. As he seemed very anxious to meet Dr. Heinrich Auspitz who had recently established the Vienna Poliklinik, where I was then acting as an assistant, I volunteered to introduce him and well recall his hesitancy as he thought of an extremely critical review he had written of a recent book by Auspitz. Their meeting, however, was a most amicable one. Later, in Paris we met again, and together attended
the genito-urinary clinics at certain hospitals which were held, as I well remember, at so early an hour that we usually went to them before having a mouthful to eat.

Of equal prominence in the medical profession was another member of our society, Dr. William H. Draper. He had laid a firm foundation for dermatologic teaching through his study in Europe and for many years lectured on skin diseases in the College of Physicians and Surgeons. He was a charming man though somewhat reserved in his manner, and in his later years was forced by his increasing general practice to give but little attention to dermatological work.

Another prominent, if not as popular a member of the society, was Dr. Morris H. Henry, editor of the American Journal of Syphilography and Dermatology. He was a red-faced gentleman of affable appearance, but extremely bluff and aggressive in both his speech and manner. Whether intentionally or unconsciously, he succeeded in irritating the older and terrorizing the younger members of the society, and although his conduct of the journal was most creditable to himself and to the profession, his petty squabbles with his contributors seemed to take much of the joy out of their lives. Long after his connection with the society ceased it might have been truly said of him "Gone but not forgotten." For many a year after I joined the society, Dr. Henry's peculiar eccentricities formed a never ending subject of discussion as we were gathered around the table after our regular monthly meeting.

In the early days of our society, the collation or supper which followed each meeting was a much more elaborate affair than the simple "spread" of the present day. Midnight invariably found us eating and drinking, while the discussion of various topics and the telling of stories by members and by guests, invited on account of their ability in this line, often lasted nearly through the night. I remember that Dr. Allan McLane Hamilton in particular used to drop in frequently after adjournment of our regular meeting and entertain us by the hour with his brilliant stories and vaudeville impersonations, while Dr. William T. Bull favored us with a song on many occasions. Sumptuary laws were passed at frequent intervals by the society but were never enforced. When any member had entertained lavishly and was somewhat stunned by his household bills for that month, he would often offer a resolution at the next meeting of the society to the effect that the cost of the supper should not exceed $1 a plate. The motion was always promptly carried, and the law invariably disregarded.

Dr. Fessenden N. Otis, another prominent member of the profession and of our society, was one of the worst offenders. Being a high liver himself, and having a large and lucrative practice, he always provided champagne and the choicest delicacies of the season whenever it came his turn to entertain. Many muttered protests might have been heard the next morning before office hours, but I do not recall, nor do I find any record in our minutes, that the offender was ever publicly censured for his misdemeanor. Dr. Otis made a great reputation in genito-urinary surgery, although his views as to sounds of large caliber were regarded by many surgical colleagues with the same horror that the silver theories of Mr. W. J. Bryan were once looked on by conservative bankers. Of one member of the society who never exhibited any cases nor uttered a word in the discussion of those shown by others, Dr. Otis once made a remark which I can never forget. He said he had never known this quiet member to open his mouth—except, to put in an oyster.
Dr. Frederick R. Sturgis, another active member of the society, was for many years associated in practice with Dr. Bumstead. He was one of the most genial men I have known and a favorite with all who knew him well. He lacked certain qualities essential to great success in practice, and in medical politics to which he devoted much attention he often appeared to be on the wrong, or at least, on the unsuccessful side.

Dr. Thomas A. McBride, whose early death was a loss to the medical profession which it is now difficult to appreciate, was in my opinion, the most brilliant man ever associated with this society. He was a profound student and richly endowed as to mental qualities. Though not a specialist, he was an excellent dermatologist while at the same time he was thoroughly versed in neurology and nearly every other branch of medicine.

Dr. F. LeRoy Satterlee was another very active member. He was greatly interested in the study of rheumatism and was inclined, as we sometimes thought, to regard nearly every dermatosis from a purely rheumatic standpoint.

Dr. Henry G. Pifflard was undoubtedly the most remarkable man we have ever had with us. The characteristics of his peculiar genius cannot be summed up in a few words, and some lengthy reminiscences of this colleague have already been presented to the society (J. Cutan. Dis. February, 1911).

Of Taylor, Foster, Lustgarten, Morrow, Jackson, Dade and others who have honored the society by their membership, and whose memory we shall ever cherish, I would gladly speak. But as most of you knew them well, a tribute of praise on this occasion would seem unnecessary. Of the few former active members who are still living, I need not speak. Some are here tonight, and can speak for themselves.

Many societies of various sorts and for various purposes are frequently started with a blare of trumpets, and die of inanition as soon as the initial enthusiasm cools. When a society can celebrate its semicentennial anniversary, it is no longer an experiment, and can justly claim to be regarded as a permanent institution. The New York Dermatological Society will continue to be in years to come, as it is now, the oldest dermatological society in the world. May we and our successors do our utmost to make it, if possible, the best society!

And now let us skip from fifty years ago to fifty years hence, and attend in spirit the centennial celebration of the founding of our society. Possibly one or more of you younger men may be there with the aid of a cane or crutches, and may indulge in a few reminiscences of the past as I have done tonight. But in all probability it will be another group of men who gather at that celebration, and I can imagine how someone will ransack the archives to discover a few facts relating to the founding of the society, and perhaps run across some brief references to this modest celebration we are having tonight.

I wonder if the original members of our society, occupied as they were in the details of organization, ever dreamed of a possible centennial celebration! Probably they were content to let the future take care of itself, and evidently did not worry at all about it.

When I was a small boy I used to sing, or try to sing, for my father a song entitled "A Hundred Years to Come." The words were meaningless to me, but they seemed to impress my father as being worthy of thought. And they now impress me in the same manner. With your indulgence I will conclude by repeating them.
Oh, where will be the birds that sing,
A hundred years to come?
The flowers that now in beauty spring,
A hundred years to come?
The rosy lip, the lofty brow,
The heart that beats so gaily now.
Oh, where will be love's beaming eye,
Joy's pleasant smile and sorrow's sigh,
A hundred years to come?

Who'll press for gold this crowded street,
A hundred years to come?
Who'll tread yon church with willing feet,
A hundred years to come?
Pale, trembling age, and fiery youth,
And childhood with its brow of truth;
The rich and poor, on land and sea,
Where will the mighty millions be,
A hundred years to come?

We all within our graves shall sleep
A hundred years to come!
No living soul for us will weep,
A hundred years to come!
But other men our lands shall till,
And others then our streets will fill,
While other birds will sing as gay,
As bright the sunshine as today,
A hundred years to come!

Dr. E. P. Bronson: Never did I wish I were a more ready speaker than at the present moment. Written words never have the effect of words spoken directly and impromptu from the heart. But when the heart is full one's utterance is liable to become disordered and his ideas go astray. What I have to say can be better condensed, if I write it.

First, I want to thank you for the honor of your invitation to join you in this semicentennial celebration of the New York Dermatological Society. Furthermore, I want to assure you of my deep appreciation of the honor you paid me when you made me one of your honorary members.

But before I go on I must free my mind of a story that some haunting devil of a Puck is continually prompting me with. The trouble with it is that though it has a point I am afraid you won't get it right at first, but with a certain amount of explanation afterward I hope to make it quite clear and so shame the devil. An Englishman, speaking at the Quill Club the other night, in referring to the differences of speech in England and America and of the apprehensions he had that he should not make himself understood, told us how he had been surprised by a compliment paid him after an address in some Western town by one of his auditors who said that his speech was "bully" because he spoke "just good American." This reminded him, he went on to tell us, of a clergyman who had been preaching in a lunatic asylum. When he had finished, one of the inmates approached him and said: "That was a very good sermon, much better than the other minister's that preached last week." The clergyman was pleased and asked what it was that the man particularly liked about it, and the answer came: "We all liked it because you are just like one of us."

Now this Englishman had not the slightest intention of casting a slur on Americans, and you will surely believe me that I would be incapable of a gibe at you. Indeed, the point of this story lies in the obvious contrast of
conditions—a condition of inverted polarity, one might say. No more would I think of comparing myself with the fluent and always felicitous first speaker, my friend, Dr. Fox, than I would call this eminently sane and worthy society of dermatology a lunatic asylum. I am sure you see my point now, though it takes a little ratiocination. In fact, the only lunatic among you was I when I left you before I had to—not an escaped lunatic, that would be ambiguous. Yes, I do know of one other. I happened to be placed next to him at a dinner not long ago. We had not conversed much together when suddenly he asked me if I was still a member of the New York Dermatological Society and the Association. "No," I replied, "I resigned my membership in both some years ago." "I got out too," said he, "I had had enough of it." And I wondered why. Now he was a worse lunatic than I, though I was surely one in resigning when I did. I was sane enough afterward to realize my loss and regret it. I felt that I had surrendered my privileges as an active member too soon. I was always devoted to the society, and I dreaded becoming a "back number." In the early days, the most interesting cases presented were chiefly for diagnosis, as no doubt they are still. But the diagnosis was chiefly founded on the external appearances, and the form and character of the cutaneous lesions. That sort of diagnosis was what was especially taught in my time in Vienna, where for two years I followed the teachings of the great Ferdinand Hebra, than whom there never lived a greater adept in this method of diagnosis nor a more fascinating teacher of dermatology. Neumann and Kaposi, whose methods were nearly the same as that of Hebra, I also followed closely. It might be called the graphic or pictorial method of diagnosis. Every skin disease displayed its own picture on the skin, had its special and particular physiognomy by which the trained eye could always recognize it. One did not need to dig out the itch mite to diagnosticate scabies nor make a Wassermann test to determine whether a lesion was syphilitic or not. When I came back and joined this society, I flattered myself that I was fairly proficient in this superficial or graphic method of diagnosis, and the animated discussions we used to have over the many curious cases that were presented at our meetings interested me exceedingly, and I fancied I could take an intelligent part in them. But later on, when you began to delve deeper, and pursued more or less devious paths into regions where I was less familiar. I was a laggard and found more and more difficulty in keeping you within hailing distance; and with that came the cold fear that I was becoming a back number, that I was falling into that lamentable state of obsolescence of the old member, referred to by Dr. Fox, who "never opened his mouth but to drop an oyster into it." And so I dropped out to make room for some one of more youthful enthusiasms and more modern ideas. But I still have, and always shall have, great affection for the New York Dermatological Society; and to have loved and lost is better than never to have loved at all.

I would like to add a word of reminiscence concerning some of our former members whose memory should be preserved.

Dr. Frank Foster was a man of cultivation, of refinement, of literary ability, and a good friend whom I shall always remember with a feeling of tenderness. Dermatology was not especially his forte, though for a time he held the chair of dermatology at the College of Physicians and Surgeons, thus preceding Dr. Fox. He was essentially a man of letters: his great medical dictionary, which was to have been his magnum opus, was a splendid scheme, but the scope of it had to be greatly curtailed because of certain exigencies of its
publication. Four large volumes were completed, but in the last one all the subjects included between MINN and ZYTH had to be crowded into the last—fourth volume. Notwithstanding its curtailment, it remains a valuable work, and a monument to Dr. Foster's high aims and industry. There were eleven collaborators, of which I was one, and during the two years that I devoted a large part of my time to it I never engaged in work more fascinating and congenial. Foster also was the editor of the New York Medical Journal for a long term of years. I was also associated with him in this, making the abstracts for subjects pertaining to dermatology and syphilis. In both of these tasks I was thrown into intimate relations with him, and always found him a most indulgent and helpful taskmaster. Whenever I had written a paper I was apt to take it to him for an opinion. His comments and criticism were always tactful and most kindly. I shall ever cherish his memory.

We all remember Bob Taylor well—his faults and his good traits. He was a man of strong antipathies and was fond of scraps; and yet he had a warm heart. With his friends, his cordiality was pronounced. He was extremely sensitive, but I always thought he was singularly eager to be liked. He was, withal, a man of great industry and of signal achievement.

Among all our members there has been none more brilliant, more versatile, more interesting than Dr. Piffard. There was no new phase of thought in dermatology, in therapeutics, or in almost any field of scientific progress, in which he did not become interested, often intensely—and to which he was not able to contribute something worth while. His energy, his driving force, was tremendous, but he was also a man subject more or less to erratic impulses. Though he never was a superficial worker, it must be confessed that sometimes his work was marred by these impulses. Not only in connection with more serious subjects was this observed, but also even in his contributions in the realm of sport, for he was a good sportsman. He showed here often a curious whimsicality. For example, in canoeing, which at one time engaged his interest, he had a canoe with a fish for a private signal, and when asked the name of the craft he said it was Psyche, with the explanation that some illiterate person after spelling out this name on the stern of a boat, remarked it was a durned queer way to spell fish. Another whimsicality was his idea of a suitable model for a sailing canoe. Canoes easily capsize. He wanted something that would stand up better, so he took for his model the longitudinal section of an egg. The craft was very staunch, and went all right except that when in sailing on the wind he wanted to change to the other tack the thing would not go about, so that he was forced to use a paddle or else jibe around. But with all his erratic peculiarities his alert mind and abounding energy was a stimulating example for us all, and his extraordinary personality will long be remembered.

My impressions of Dr. Morrow were given at the Memorial meeting held at the Academy of Medicine in his behalf shortly after his death. His greatest contribution to medicine was his fine work on Social Diseases and Marriage. Social diseases is a somewhat ambiguous term, and of course is used as a euphemism for venereal diseases. This work and the foundation of the Society for the Prevention of Social Diseases were those on which his fame chiefly rests. I have sometimes thought that because of certain mannerisms Dr. Morrow's good points were often underestimated. He had a manner that was partly perhaps indigenous to the South, and partly perhaps due to a habit acquired in his early days as a school teacher. It seemed somewhat magisterial and dictatorial, but it meant but little and was wholly devoid of any con-
scious offense. At heart, Dr. Morrow, when you came to know him well, was the kindest of friends, a most indulgent host, and a capital companion, interesting and humorous. No amount of work seemed to appall him, and it was doubtless its excess that was accountable for his early death.

Dr. Jackson was for many years my assistant at the New York Polyclinic. I knew him well, always liked him, and held him in high esteem. A more conscientious, thorough-working, dependable soul never lived. He was a plodder, but he always plodded in the right direction, and was a most effective and useful worker in the society. It is my wish to pay him a merited and affectionate tribute.

Dr. E. L. Keyes, Sr.: Fifty years ago—and now the baby has grown up and the ugly duckling has become the glorious, spotless, resplendent swan.

Memories are kindled floating back with the misty past—for I too had been born fifty years ago, and seventy-five years and even more—so that my memories may be allowed to be misty, and not only my memories, but my memory.

My first recollection of the society is that of the meeting at Dr. Bulkley. Senior's house—Twenty-fifth or Twenty-First Street near Fourth Avenue. Fanueil D. Weisse, I believe, was there, perhaps also Foster Swift. I am sure of Dr. Van Buren and Dr. Bulkley, Sr., and I think Frank Foster was of the number—the topic being a discussion as to the advisability of forming a dermatological society which had already been started and taken shape, and presently the presentation of a case of tubercular leprosy, astounding all by its novelty and its gruesomeness.

In those early days a paper was usually read at the meetings, the clinical part was secondary, as was also the supper, it being often little else than cakes and ale with perhaps some cheese thrown in.

Then the society became fuller and more active in function—new elements came in—M. H. Henry, Prince Morrow, Henry G. Piffard (Brains, as we called him), and Bob Taylor, who made things lively with their good-natured mutual animosities, which they aired freely in open meeting.

Then the social element took the lead and the activities of the society dwindled until it became necessary to introduce a by-law that absence from a meeting without valid excuse should constitute a punishable misdemeanor, and I think that even tardiness in getting to the meeting was fined.

Then I remember that an ordinance was passed restricting the cost of the supper to a certain sum—but this like other sumptuary laws soon fell into disuse.

Then came a period when the quantity of cases presented became almost greater than the society could digest, and then presently a period when the quality of the clinical goods presented became too rich, and it constantly happened that cases were presented to which the society would not and could not give a name—a circumstance that gave me an opportunity presently to offer a resolution that if any man presented a case that could not be classified by the society and diagnosticated, this would be sufficient cause for dropping him from the society. Sherwell was often under the ban for this cause.

I recall Dr. Fox's first entrance into the society. It was at my house, 210 Madison Avenue. He entered through the front door into the society, and at the same time into my heart where he has remained ever since.

And so I must congratulate you, gentlemen, as having grown great and strong—and having more than preserved your youth, as well as having a
foster brother in the field—as I may call the Junior society—and I wish God speed to the new order of things, and all prosperity in the years to come.

Dr. Samuel Sherwell: Dr. Sherwell being called on complimented Dr. George H. Fox on his excellent though all too brief summary of the history of the society, and his comments on many of the older members thereof. The speaker had had the honor of being received into membership in the same year as Dr. Fox, and agreed fully with him in his remarks and conclusions. Perhaps not enough had been said about the good work of some of the other old members, such as Jackson, Robinson, Bulkley, and others. He deplored the perhaps unavoidable tiffs and disagreements that had occurred in this society, but they will, in the nature of things, occur in all and kindred societies, human nature remaining always the same. He (Dr. Sherwell) agreed in the estimate of all the members who had spoken before him in regard to our deceased member, Dr. Piffard, that versatile genius not only of dermatology, but of so many other things. He (Dr. Sherwell) had also listened with great pleasure to the remarks and reminiscences of the previous speakers, and joined with them in their expressed wishes for the continued life and prosperity of the society; he had been personally of some little service in the past years, which had been more than recognized and rewarded by the society. He could wish now that he had made a better record, as naturally by the age limit his cooperation must soon cease. In conclusion he reiterated his earnest wishes for the still greater development and prosperity of the society and that the motto of “Crescit eundo” would be earned and deserved as it no doubt would be.

Dr. Highman: Gentlemen, our toastmaster has taken me unawares in requesting me to address you tonight. In calling me to my feet he has designated me as representing the youngest or tertiary phase of this society. For my own part I should have preferred remaining latent, but since I have been provoked into activity, the further pathologic effects be on our toastmaster’s head! I came to listen and not to speak, for I have been awed by the noble and venerable traditions of this society, the delightful recital of which, by the other speakers, has made this evening so pleasant.

It is impossible for me to contribute to your pleasure in their vein. May I be permitted though, to dwell for a moment on a subject which so august a body as ours should have in mind? In recent years since the study of syphilis has emphasized the importance of that disease, attempts have been made in various quarters to separate syphilis from dermatology. In three institutions in the East there are separate departments for the study and treatment of syphilis. Only one of these, that of the Harvard Medical School, is really well conducted. But here we find two distinct chairs, namely, that of dermatology and that of syphilis doing the work that might equally well be done under single leadership. In other words, there is an unnecessary reduplication of effort and equipment. The other two medical schools in which there is a similar division have syphilis departments so weak as to be ludicrous, and charity compels one to conceal their names, although publicity might be advantageous to the doctrine inherent in my words. In one medical school in New York an attempt is being made to separate syphilis from dermatology, and to place it under the control of the chair of internal medicine. The absurdity of this is patent enough to any one whose experience gives him an insight into the knowledge that the average internist has of syphilis.

Traditionally the study of this disease has made its greatest progress under the guidance of dermatologists. In witness of this it is necessary only to
recall such names as Fournier, Ricord, Neisser and Finger. In our own country the subject is best taught at Ann Arbor, the College of Physicians and Surgeons and the Bellevue Medical School in New York and in the Jefferson Medical School in Philadelphia, all institutions in which the professor of dermatology teaches syphilis. The members of this society should lose no chance to emphasize these facts, and it is urged that we change our name to the New York Dermatological and Syphilographic Society to give weight to our attitude.

You will forgive me, gentlemen, for having burdened you with words of such earnest purport, but I believe that this occasion is timely, and the moment is ripe for dermatologists to defend their traditions against a coterie who consider any change an evidence of progress. Actually such a change would place the teaching of this important disease in the control of those least equipped to teach it properly. The New York Dermatological Society today is celebrating its golden anniversary; it is the oldest organization of its kind in the world. Its voice lifted in solemn protest would command respect.

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CHICAGO DERMATOLOGICAL SOCIETY

Regular Meeting, March 19, 1919

DAVID LIEBERTHAL, M.D., Chairman

CASE FOR DIAGNOSIS. Presented by Dr. McEwen.

A man, aged 27, who had been in Y. M. C. A. work in Mesopotamia from December, 1917, to August, 1918, and in India in September, 1918, when first seen in January, 1919, presented: (1) a small crust-covered lesion, 0.5 cm. in diameter, on the right temple; (2) a slightly larger crusted lesion on the left jaw, showing some pus; (3) a bluish-red lesion on the first phalanx of the left middle finger, on the dorsal side, approximately 1 cm. in diameter, showing small ulcerations and surrounding infiltration. The temple and finger lesions appeared in July while he was in Mesopotamia, and the jaw lesion appeared in September, in India. The former lesions appeared over night as blisters, simultaneously; the latter began as a "pimple." There was no known cause, such as insect bites or contact. When first seen the face lesions seemed to be ordinary pus infections. He had been treated by antiseptic ointment and roentgen rays. The face lesions practically healed, with slight scarring. The finger lesion was larger, with newly developing small outlying papules; the centers were at one time verrucose, but this appearance was passing. The lesions were said, by doctors familiar with that condition, not to resemble Oriental sore.

DISCUSSION

Dr. Wile was not familiar with Oriental disorders, and did not care to offer a diagnosis.

Dr. Zeisler made a diagnosis of lupus erythematosus.

Dr. Harris believed it to be either lupus erythematosus or lupus vulgaris.

Dr. McEwen thought it might be tuberculosis of the skin. It did not correspond to the Oriental sores he had seen, and those who had observed the case in the hospitals abroad had stated that it did not look like Oriental sore.
An interesting thing about the case was the recent development of the outlying papules; there seemed to be a lymphatic spread. It had not been possible to secure a section for microscopic examination.

**EXFOLIATIVE DERMATITIS OF THE FINGERS.** Presented by Dr. Stillians.

A Jewess, aged 54, had suffered from psoriasis since she was 15 years of age. For the last two years she had been under treatment with chrysarobin ointment and low proteid diet. She improved but her skin was never clear, and new lesions frequently appeared. In past years she had had several attacks of swelling of the lips. Early in February, 1919, she noticed itching of the palms and fingers, and soon after the finger tips felt hard. On palpation the ball of the finger felt as though covered by a stiff but fragile crust, and was pitted. This cleared up in a few days with desquamation, but recurred on March 8, and on the day of demonstration the last phalanges of several fingers were desquamating in large flakes.

**DISCUSSION**

Dr. Harris believed the desquamation of the fingers was caused by some treatment she had received. He did not believe it was psoriasis, although she had psoriasis of the finger nails.

Dr. Wile agreed with Dr. Harris that it was some mechanical desquamation.

**XERODERMA PIGMENTOSA.** Presented by Dr. Harris.

A boy, aged 8, born in this country of German parents, had had a skin eruption for two or three years, which was gradually getting worse. He came from a small town in Illinois, and the physician stated definitely that there was no similar case in the family. The lesions were present on the face, neck, hands and upper part of the chest. There were reddish macules, small brown to black freckles and in places distinct ulcers. There was marked ectropion and photophobia. The case was a typical picture of the condition.

**PSORIASIS?** Presented by Dr. Ormsby.

A girl, aged 14, had had the disorder eight years. The first lesions appeared about the left elbow and spread upward and downward from this point. At the time of presentation there were plaques varying in size from a half dollar to a dollar and larger, having a linear arrangement, extending from the shoulder to the wrist in the area usually occupied by a nevus. The plaques were made up of scaling papules and were indistinguishable from ordinary psoriasis. They had not voluntarily disappeared since the beginning: under treatment they had partially cleared up, but promptly recurred.

**DISCUSSION**

Dr. Irvine ventured the diagnosis of lupus erythematosus. It was unusual in the site and type of lesions. There was very little scarring and a considerable amount of scaling which was very suggestive of lupus erythematosus.

Dr. Harris thought it was hypertrophic lichen planus. It probably was not lupus erythematosus for there was involution without scarring. There was marked pigmentation.
Dr. McEwen said his first guess would be nevus linearis; his second, hypertrophic lichen planus; of the two he was more inclined to the former. He did not consider it a lupus erythematosus.

Dr. Senear considered it a hypertrophic lichen planus.

Dr. Wile was impressed with the case just as Dr. Irvine was; the situation and distribution of the lesions was most unusual, but the girl had lesions on the scalp also, and had lost a small amount of hair back of the ear. He felt that he could demonstrate a small amount of atrophy and for this reason he was much in favor of the diagnosis of an unusual form of lupus erythematosus, and would not have hesitated a moment about this diagnosis had the lesions been on the face.

Dr. Ormsby stated that he had first seen the patient about four weeks before, and at that time the patches were like psoriasis, but he thought it strange that the lesions should be distributed in a line. At the lower end there was a scar which had been produced by cauterization; all the other lesions were of the psoriasis type. The patient was put on the Asiatic pill and ammoniated mercury ointment treatment, and in ten days the lesions had practically disappeared without scarring, and with but moderate thickening and brown pigmentation. She was seen about three weeks later, and the treatment was suspended to allow the lesions to develop. There were lines of thickening on the forearm even after she had improved, and it seemed likely that if treatment were continued the whole process would clear up. He had treated nevi with carbon dioxide snow, roentgen rays and other methods, and they would not disappear unless radically removed; so the diagnosis of nevus was an open one. Lupus erythematosus at the age of 5 would be extraordinary, and he never had seen it clear up to this extent. Some of the lesions corresponded to the psoriasiform nevus. It was unusual for a case of psoriasis to present the features and history noted here, but it must be considered.

Dr. Wile said it still did not appeal to him as psoriasis. He agreed that lupus erythematosus was rare at 5, but thought psoriasis was just about as rare at that age. Lupus erythematosus could disappear just as well under any form of treatment or without treatment. The lesions sometimes disappeared in two or three weeks and then recurred, and he had seen cases of lupus erythematosus which left practically no scar. cases in which the parakeratosis was the main feature and the reaction in the cutis very mild. He was still unconvinced that it was psoriasis or a psoriasiform nevus.

Dr. Harris asked Dr. Ormsby whether he knew what the Germans meant by the "strichtformige" eruptions. He had shown a case which had lesions that disappeared under treatment, and later Dr. Quinn showed a similar case in which there was disagreement as to diagnosis. According to some observers, these cases responded to treatment.

Dr. Ormsby said he knew that lupus erythematosus sometimes disappeared without leaving scars, but as a rule not so quickly. He believed the treatment was the cause of the disappearance of the lesions in this case. It was usually taught that psoriasis sometimes began at the age of 5 years or earlier, but this was not the case with lupus erythematosus. The latter disorder was sometimes seen at the ages of 10 or 11; but it was extraordinary to find it limited to the arm. He expected to be able to get a histologic section very soon, and that would demonstrate the nature of the case. He was convinced that psoriasis could act as this condition had, and there was no reason why a psoriasis
affected by some nervous complication could not appear in a line as this did. He had had considerable experience with lichenoid nevi, but they did not clear up under ordinary treatment.

CASE FOR DIAGNOSIS. Presented by Dr. Lieberthal.

A boy, aged 12, had always been in good health, but six weeks before he had developed a moist patch on his left forearm. White precipitate ointment was applied, and green soap and sulphur ointment were used. Two weeks after the appearance of the moist spot, scaly patches developed all over the body. There was considerable pruritus.

DISCUSSION

Dr. McEwen said that were it not for the long duration, he would have considered it an ordinary dermatitis venenata which had been spread by the fingers, but the duration would probably rule out that diagnosis.

Dr. Senear thought the lesions of the arm and over the right scapula had the appearance of an infectious dermatitis, and he believed it was an eczema-toid dermatitis.

Dr. Harris thought it was probably an epidermophyton infection.

Dr. Lieberthal stated that when the boy was first seen there were various lesions; it was thought that it might be a case of scabies and green soap and sulphur ointment were used. He had seen the case for the first time on the preceding day, when he made a diagnosis of a seborrheic dermatitis. He would try to demonstrate the case again at the next meeting after a further study had been made.

EPIDERMOLYSIS BULLOSA. Presented by Dr. Pardee.

Two boys, aged 12 and 15, respectively, from a county poor farm in Missouri, had had the disorder since 3 years of age. They were both feebleminded, and the parents were also in the poor-house. The lesions consisted of bullae which appeared on trauma.

DISCUSSION

Dr. Harris thought the cases were very interesting, especially in regard to the scars all over the trunk.

Dr. Senear said that the lesions on the body had caused a good deal of comment, but a case he had seen last year showed a number of lesions on the trunk, perhaps 100 or 150, and at that time it was thought that of the familiar lesions which most nearly approximated them in type were some of the lesions in erythema multiforme. He did not think these were all scars. The lesions were bullae, covered with a roof, and the latter could be picked up from the underlying skin. It was interesting to see the same type of lesions in these cases.

Dr. Pardee stated that he had seen the patients once before. He believed there was no question as to the diagnosis, and the distribution could be accounted for by the neglected condition of the patients, who were covered with vermin of all sorts and had scratched and bruised the lesions everywhere. The lesions had shown the natural atrophy.
DEVERGIE'S DISEASE. Presented by Dr. E. P. Zeisler.

Two children, a girl aged 14 and a boy aged 12, were presented. A sister aged 16 had the same disorder. The father had a typical pityriasis rubra pilaris of twenty-five years’ duration. He was under the senior Dr. Zeisler's care in 1899, improved markedly under treatment and was told that he could marry without fear of transmitting the disease to his children. Of four children, three had developed the disease which began in early life. In all three children the lesions were of the seborrheal type on the face and scalp, while the extremities showed the confluent rough, psoriasiform plaques typical of the disease. The girl of 14 and the father only showed the characteristic black "plugs" on the phalanges. This was probably the first instance of Devergie’s disease observed in this country.

DISCUSSION

Dr. Irvine expressed his appreciation to Dr. Zeisler for showing the case, and thought it very interesting to see two cases in the same family.

Dr. McEwen thought the cases very extraordinary, and was of the opinion that they should be reported in full.

Dr. Ormsby had never seen family groups of this disease before, but always individuals, and it was very interesting to find that there was a possibility of transmission of the disease.

Dr. Zeisler said that one other instance of familial Devergie's disease had been reported in the French literature.

LINGUA NIGRA. Presented by Dr. Harris.

A man, aged 35, whose disorder had been present for two years, had been treated for some liver-trouble, supposedly cirrhosis.

For the past two years he had complained of a hairy condition of the dorsum of the tongue. The hairs were about one-fourth of an inch long and of a brownish-gray color. There were no changes, except that nothing tasted good.

DISCUSSION

Dr. Harris said the only thing the man complained of was that nothing tasted good. He had used antiseptic mouth washes, but they did no good. He thought an attempt at treatment should be made. Painting with Cutler's fluid removed the coat, but it returned in a couple of weeks.

CASE OF FACIAL SARCOID. Presented by Dr. Harris.

A young girl with facial sarcoid was shown at the February meeting, at which time there was no pus to be seen, and the lesions were undergoing involution. She had received no treatment except wet dressings to eliminate the superficial pus. No ulcerations were present at this time. On involution there were pea size, darker areas left in the large plaques, although no ulcerations had preceded.

DISCUSSION

Dr. McEwen said he did not know what the condition could be, if it were not sarcoid.

Dr. Irvine thought that the present treatment should be continued as the disorder was disappearing very well. He thought the lesion was about half
gone since the patient was shown the last time, and the only way to settle the
question was by biopsy. The case of sarcoid seen in Minnesota had not dis-
appeared under the therapy which was ordinarily suggested.

Dr. Ormsby said the lesions in the cases of sarcoid he had seen had all
been indurated; he had never seen soft lesions. These were large and deep,
and he believed it could be and was the result of an acute infectious process.
He thought the discolorations left in the skin could be produced entirely by an
inflammatory condition of that type. The appearance of the lesions was not that
of sarcoid.

As to Dr. Irvine's statement, it was true if sarcoid were only treated
moderately, but if the patients were given fairly large doses of arsenic and
this were continued over a long period of time, the lesions usually cleared
up. He was satisfied that in quite a proportion of cases arsenic would cause
the lesions to disappear. He used either liquor arsenicalis or Asiatic pill, and
did not think arsphenamin would be of any value in this disorder.

Dr. Harris believed it was a sarcoid and could not explain it as an infec-
tion. The lesion showed involution. There was some superficial pus connected
with the lesion at first, but after thirty-six or forty-eight hours' treatment
with wet dressings this disappeared. It was a sharply demarcated, infiltrated
lesion. The lesion had never been tender, and there had been no sign of pus
for almost a month. She had lesions on the ear which were pus infections,
but they were not at all similar to this lesion. He had been unable to secure
a biopsy, but would endeavor to get one.

LICHEN PLANUS ANNULARIS. Presented by Dr. Ormsby.

A man, aged 28, had had the disorder on the leg for eighteen months, and
for six months on the rest of the body.
The lesions were situated on the dorsal surface of the hands, scrotum, penis
and legs. Several were present on the arms and forearms and a few on the
trunk. On the legs the lesions were of the hypertrophic type. The papules
were arranged in rings and lines, some were oval in contour and suggested
the moniliform variety of the disorder.

Under injections of mercury the subjective symptoms had disappeared, and
the lesions were losing their identity.

DISCUSSION

Dr. Ormsby said there were three types of lichen planus exhibited in the
case: the annular, hypertrophic and plain. The lesions were on the glans and
in other parts of the genital region, as well as in the other areas, and all the
types were classical in the one patient. The patient had received twenty injec-
tions of mercury and many of the lesions had undergone involution, but they
were as resistant to treatment as any he had seen.

BLASTOMYCOsis. Presented by Dr. Stillians.

An Italian coal miner, aged 41, who had been in the United States for
sixteen years, living in LaSalle, Ill., had seven years ago suffered an injury
to the right elbow which healed after a variable period, leaving only a slight
scar. Soon after this accident he noticed a small red papule on the right
cheek, directly over the maxilla. This grew progressively larger. The lesions
were painless. He had had ten separate operations for the condition. His
past and family history were negative; venereal history was denied; his habits
were good. Physical examination was negative except for the lesions.
The hair was missing in several patches on the scalp. A white, tense scar, without wrinkles occupied the forehead and sides of the head. No lesions were present in the scar. On the scalp near the occiput was an active lesion with a circinate, purplish, sharply defined border; on pressure the purplish color disappeared and a yellowish-brown color was visible. No typical apple-jelly tubercles were present in the border. There was a thick, yellowish crust over the lesion which when removed left a bleeding surface in some areas, while in others a whitish tissue paper scale was found beneath. About the neck the white scar was definitely demarcated from the normal skin.

An ectropion of both lower eyelids was present, leaving a red, raw surface about two inches in width. The cornea of the right eye had a whitish scar.

A thick crust was present over the bridge of the nose which extended down the sides to the external angles of the mouth. The external nares were almost pinpoint in size, while the upper lip was contracted by the scar. No lesions could be seen on the mucous membrane of the nose. The scar involved the ears so that both external auditory meati were almost entirely occluded, although hearing was normal. The mouth could be opened for only about half a centimeter because of the scar contraction. The thick, heavy crust extended down on the chin, also causing some anterior contraction of the neck and pulling down of the chin, which kept the mouth open.

**DISCUSSION**

Dr. Irvine considered the case very interesting. At first glance one would say from the deformity, "lupus," and think no more about it; the lesion on the scalp was rather characteristic of blastomycosis.

Dr. Stillians was interested in the history of the injury to the elbow and the great swelling of the arm, and following that the lesions on the face. He considered the condition blastomycosis.

**CASE FOR DIAGNOSIS.** Presented by Dr. Stillians.

The patient was a woman, aged 33, married, a Bohemian factory worker. The disorder began about two months ago as small red papules on the arms and had gradually spread, involving the legs and thighs. The lesions were covered with scales and were accompanied by itching. She had influenza three months ago; her habits were negative. One child had a tuberculous hip. There was a moderate acne vulgaris over the back. Over both upper arms on the extensor surfaces and on the extensor surfaces of the thighs and legs were seen slightly elevated lesions of irregular shape varying in size from that of a pea to that of a nickle. They were sharply defined and of a rose color, covered with a few white scales. One or two scratch marks were present.

**DISCUSSION**

Dr. Senear believed it was a seborrheic dermatitis.

Dr. Zeisler considered it psoriasis.

Dr. Harris did not believe it was psoriasis or seborrheic dermatitis, but did not know what it was. The lesions were confined to the extremities.

Dr. Irvine thought it was one of the border-line cases seen frequently, but very hard to diagnose. One was hardly justified in making a diagnosis of psoriasis, and yet it might be that disorder. He was inclined to consider it a type of eczema rather than psoriasis.
Dr. Stillians had considered psoriasis and also pityriasis rosea, but thought the distribution ruled out the latter disease.

Dr. McEwen agreed with Dr. Irvine that it was some form of dermatitis not clearly understood. The patient had only been under observation a few days, and the case required further study. He did not believe it was pityriasis rosea.

CASE FOR DIAGNOSIS. Presented by Dr. Zeisler.

A man, aged 26, presented an eruption which had been present for a year and a half. There were two patches at the border of the hair, one around each nipple and one in the axilla. Chrysarobin had been used on one lesion and sulphur ointment on the other without much effect.

DISCUSSION

Dr. Harris stated that he had seen the patient some time before when there was marked scaling in the scalp and alopecia with an eruption that came down on the forehead. It did not respond to treatment. Lesions then appeared on the nipple and in the axilla. He had considered psoriasis, but was not sure that this was the diagnosis.

Dr. McEwen was more in favor of the diagnosis of seborrheic dermatitis than of psoriasis.

Dr. Senear thought the lesion on the forehead looked very much like psoriasis and the lesions about the nipple were more active peripherally than at the center. In view of the peculiar distribution, however, and the lesions in the axilla, where he had never seen psoriasis, he believed it was seborrhea.

Dr. Irvine believed it was seborrheic dermatitis.

Dr. Zeisler said the case did not respond to treatment for either psoriasis or seborrheic dermatitis, but he was more inclined toward the latter diagnosis.

STEATOMA. Presented by Dr. Stillians.

A girl, aged 7, had a lesion on the side of the nose just below the inner canthus of the right eye. It was pea size, yellowish in color and movable on the underlying tissue. The lesion had been present for a year. It was larger in the winter and smaller in the summer. There were no subjective symptoms.

DISCUSSION

Dr. Senear thought that a sebaceous cyst might have degenerated and given rise to such a tumor. Also, a fibroma or enchondroma, the little cartilage tumors which were sometimes seen around the nose, would have to be considered, but the fact that this tumor was rather linear and did not have the round, disk-like shape that those usually had, would rule them out. He thought it was impossible to make a diagnosis clinically.

Dr. Harris believed a sebaceous cyst could be ruled out because of the depth. He had thought of a teratoid tumor occurring in that location, and Dr. Pusey had shown such a case some years ago.

Dr. Stillians had thought of a sebaceous cyst, but was interested in Dr. Harris' suggestion.
DISCUSSION

Dr. Wile exhibited a photograph of a patient showing an infective condyloma of the mouth. There was an enormous papillomatous mass with more or less purulent material welling out from the surface. Histologically each papule showed itself as an infective papilloma. The patient had always had a quid of tobacco on that side, and had a very severe case of Rigg's disease, which the speaker thought accounted for the growth. He believed such growths were analogous to the so-called venereal warts, but in this case it was due to some organism of the mouth itself. He did not know of any other case in the literature.

THE AMERICAN DERMATOLOGICAL ASSOCIATION

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XERODERMA PIGMENTOSUM ACQUISITA? Presented by Dr. Hartzell.

A man, aged 40, presented innumerable telangiectases with many pea to fingernail sized, black, freckle-like patches over the trunk and extremities. There were many areas of depigmentation and superficial atrophy; the hands and face were free. There was moderate, fine desquamation. No subjective symptoms were present except in warm weather, when there was considerable itching. The disorder had been present for five or six years.

DISCUSSION

Dr. Pollitzer thought the objection which Dr. Hartzell himself had raised to this case being one of xeroderma pigmentosum, was well taken. The absence of lesions on the face and hands, where it usually began and commonly persisted without material involvement of the covered parts, absolutely excluded xeroderma pigmentosum. He based his exclusion of that disease, aside from other reasons, on the fact that it was not present on the areas exposed to sunlight. If it was not that disease, what was it? It seemed obvious to him that it belonged to the diseases which were essentially vascular. It fitted in, to some extent, to the disease called angioma serpiginosum. In that category, it seemed to him, there were probably several diseases in which there was dilatation and proliferation of the capillaries of the sort seen here. He called attention to the cases published by Dr. Wise several years ago and one by Dr. Wile, which corresponded very closely with the appearance of this patient. In angioma serpiginosum the lesions were telangiectatic, arranged to some extent in little rings, slightly atrophic, with a little depression in their center; very slight scaling was a common feature. In Dr. Wile's cases he thought the whole thing was due to an underlying syphilitic infection. He believed Dr. Hartzell's case should be grouped with these so-called angiomas.
Dr. Corlett thought it strange that that which must give rise to the same visual impression is interpreted so differently by different minds. He considered this undoubtedly a case of xeroderma pigmentosum. The cases he had seen, and he had had several, were in children and the majority of them did not live to adult age. The character of the lesions in this case was fairly typical, and he knew of no other disease which produced similar lesions. The telangiectatic blush seen here was also present in some of the cases he had seen.

Dr. MacKee agreed with Dr. Pollitzer. He thought the case was one of Hutchinson's infective angioma. He understood Dr. Pollitzer to include Stokes' case of generalized telangiectasia in this category. The speaker did not share in this broad conception of the affection. The keratoses were probably coincidental and of the senile type.

Dr. Little thought that without doubt the case was parakeratosis variegata. He differed from Dr. Pollitzer, and was very much convinced about it because he had had a case two or three years ago, which was the first case seen in the Section for several years, and several of the members at once identified it with Juliusberg's disease. He had seen cases with Unna's dermatosis, and recognized it as parakeratosis variegata. He thought the mottling was one of the most characteristic features, and that much of the formation was not telangiectatic, but papular. The matter should probably be decided by a histologic examination.

Dr. Wise regarded the case as a replica of the one he and Dr. Pollitzer had published, of angioma serpiginosum (Wise, Fred: Angioma Serpiginosum [Infective Angioma of Hutchinson], with a Report of a Very Extensive Case, J. Cutan. Dis. 31:725, 1913). The generalized telangiectases, the presence of slight papulation, the slight scaling, the duration of the eruption and the lack of subjective symptoms made it an identical eruption, and a biopsy would probably present the same histologic changes which Dr. Pollitzer described in their joint contribution on angioma serpiginosum.

Dr. Hartzell was more inclined to accept Dr. Little's diagnosis than Dr. Pollitzer's. He could not accept the view that it belonged to Hutchinson's angioma; he did not think it resembled it at all.

Dr. Pollitzer said that, as a matter of record, as his name had been associated with parakeratosis variegata, he wished to state that this was certainly not a case of that disease.

**XANTHOMA DIABETICORUM. Presented by Dr. Schamberg.**

A woman, aged 36, developed an eruption on the arms and legs five months before the time of presentation. The eruption consisted of pinkish, red and yellow pinhead to peased nodules. They were distinctly elevated and tender on pressure. At the elbows there was a tendency to confluence of neighboring lesions forming a patch-like infiltration several inches in diameter. About four score lesions were present on each arm and a quarter of this number on the legs about the knees. A few were present on the foot, hips and fingers. The urine at this time contained 3.92 per cent. of sugar. Under an antidiabetic regimen the reddish color of the lesions quickly subsided and the nodules acquired the typical appearance of xanthoma tuberosum. Central inoculation took place in some of the patches, with peripheral nodular bulgings giving the appearance of a rosette.
DISCUSSION

Dr. Pollitzer thought there should be at least a comment on this case as a perfect specimen. He thought it might better be called xanthoma in a glycosuric rather than xanthoma diabeticum. The difference was of small consequence, but clinically there was a brighter area around the lesions in xanthoma diabeticorum.

Dr. Hartzell thought it would be a mistake to class the case as one of xanthoma diabeticorum.

Dr. Little asked if the members were familiar with xanthoma of this type preceding diabetes, but later becoming diabetic. He had had two patients of that type who remained for several years uninfluenced by treatment, but who later developed diabetes. The course was fatal.

HYPERPIGMENTATION OF THE BODY OCCURRING IN SPOTS.

Presented by Dr. Strickler for Dr. Schamberg.

A child, aged 5, when about six weeks of age developed a brownish spot about the size of a ten cent piece on her left shoulder. When about eight months of age, a yellowish spot was noticed in her groin and since, at various times, new spots had made their appearance. The general health was good and the Wassermann reaction was negative.

DISCUSSION

Dr. Ormsby thought the spots were nevi.

LUPUS ERYTHEMATOSUS. Presented by Dr. Schamberg.

A man, aged 43, presented on the back an area the size of an infant's head which exhibited atrophy of the skin and telangiectasis which looked much like a chronic radiodermatitis. This patch began several years before with a scaly surface presenting the appearances of a psoriasis. There were also erythematous patches involving a large part of the face, which had been followed by a fine whitish atrophy with loss of the hair of the beard.

CIRCUMSCRIBED SCLERODERMA OF FACE ASSOCIATED WITH CRETINISM. Presented by Dr. Schamberg.

A child, aged 4, had a hydrocephalic head with a pronounced saddle-back nose, large lips, impediment in speech and the typical facies of a cretin. Since the age of 6 months she had been taking thyroid extract under the care of various physicians.

At the time of presentation a slight redness had occurred at the base of the nose which had developed into a rectangular elevated infiltration about one inch square, of bluish-red color and of cartilaginous hardness. The left ala of the nose was also of cartilaginous hardness but of normal skin tint. Several pea sized, firm, nodular infiltrations were also present on the left side of the face. The child's intelligence was normal, although the speech was slow, hesitant and indistinct. The Wassermann reaction was negative.

Owing to the fact that the child had taken from a quarter to a half grain of thyroid for over three years, the typical picture of hypothyroidism was naturally not present.
DISCUSSION

Dr. Hazen thought that at present the child did not present any of the classical stigmas of hyperthyroidism. There was not the dry, loose skin, no subnormal temperature and none of the clinical signs. He wondered if it was not a case of disturbed pituitary.

Dr. Zeisler thought that the thyroid did not play much of a rôle in the infantile age, although he knew that it played an important part in adults. He was convinced that the trouble was due to disturbance of some of the endocrinous glands, but thought it was not due to the thyroid, which did not have much action in infantile life while the thymus was there.

Dr. Schamberg stated that the difficulty of excluding hypothyroidism on the grounds of absence of certain symptoms in this case was that the child had been on thyroid treatment since early years. She had taken a combination of thyroid and pituitary extract under his care, but he had not seen any improvement. Whether there was any connection between the scleroderma and the underlying condition was, in his opinion, an open question.

UNIVERSAL DERMATITIS FOLLOWING DERMATITIS HERPETIFORMIS. Presented by Dr. Hartzell.

A man, aged 67, presented a universal dermatitis with much scaling and, in places, crusting. There was no involvement of the mucous membranes. The disorder had been present for nine or ten months. It began as numerous annular and gyrate erythematosus and vesicopustular patches on the trunk and extremities. Some of the annular patches showed three concentric rings. Severe itching and burning were present, but there were no constitutional symptoms.

DISCUSSION

Dr. MacKee thought the case suggested a pemphigus foliaceus.

Dr. Corlett said he had seen fifteen cases of pemphigus foliaceus in Cleveland, and while this case did not present any of the stages of bleb formation, he thought, nevertheless, that the eruption was fairly typical of this disease.

Dr. Wallhauser was inclined to regard the condition as pemphigus, the moist scaling which was present being characteristic of cases of pemphigus that reached a final stage of exfoliation as occurred in pemphigus foliaceus.

Dr. Pollitzer considered the case pemphigus and called attention to the characteristic odor. The man had none of the bullous lesions which were typical of pemphigus, but it seemed to him undoubtedly a case of that disease. The scales were manifestly saturated with serum the decomposition of which gave the characteristic odor. They covered large parts of the body and the legs, they felt moist and the clothing stuck to the skin in places.

Dr. Hartzell thought this case brought up the old question of the relationship between dermatitis herpetiformis and pemphigus.

FAMILIAL KERATODERMIA AND STRABISMUS. Presented by Dr. Schamberg.

Three children, aged respectively 10, 8 and 6 years, presented on the palmar surfaces horny patches either circumscribed or in streak formation. The soles were involved to a less extent. The condition was believed to have been present since birth. All three children had a pronounced strabismus.
ADDISON'S DISEASE? Presented by Dr. Strickler for Dr. Schamberg.

A married woman, aged 36, developed a bronzing of the skin of the face, with no other symptoms, about three years ago. With rest and the use of suprarenal extract the condition disappeared, but recurred from time to time. Recently the patient had developed a desire to steal, although she was cognizant that it was wrong. The patient had one child, aged 18. She had been subjected to five surgical operations, and in one of them one ovary had been removed. The Wassermann reaction was negative, as was also the physical examination.

DISCUSSION

Dr. Cole asked about the blood pressure, and whether there was a history of diarrhea and constipation.

Dr. Strickler, replying to Dr. Cole, said there was no history of diarrhea, and the blood pressure was low.

PARAPSORIASIS LICHENOIDES ET PSORIASIFORMIS. Presented by Dr. Schamberg.

The patient, aged 32, had suffered for four years from a widespread eruption involving the entire trunk and upper part of the arms. The lesions were mixed, consisting of faintly elevated papules with a slightly glistening surface and small scaly patches covered with thin scales. Some reddish brown discoloration was present as a background; itching was slight. The eruption had not been influenced by medication.

DISCUSSION

Dr. White asked whether it might not be possible that it was a case of epidermophytton infection, and suggested investigation by Dr. Mitchell.

Dr. Schamberg asked Dr. Ormsby what his experience with the use of chrysarobin had been in these cases.

Dr. Ormsby replied that several years ago when Dr. Schamberg furnished him with some neorobin he used it on a case of parapsoriasis lichenoides and the lesions entirely cleared up for the time being, but after several months they returned. He had since made several requests for neorobin, but had not been able to obtain it.

VITILIGO. Presented by Dr. Hartzell.

A boy, aged 8, presented an irregularly-shaped patch of depigmentation in the region of the distribution of the right supra-orbital branch of the fifth pair of nerves. It had come on rather suddenly two months before.

PITYRIASIS RUBRA PILARIS. Presented by Dr. Strickler for Dr. Schamberg.

A man, aged 27, had an eruption which began about December, 1918. He presented, on the dorsal surfaces of his phalanges, grouped lesions which felt like a nutmeg grater, and which contained horny plugs. The scalp presented some seborrhea. On various parts of his body could be observed grouped lesions in patches attended with some evidence of inflammation. These lesions were papular and characterized by horny plugs protruding from them. The physical examination disclosed some scoliosis and a chronic, inactive, pulmonary tuberculosis. The Wassermann reaction was negative.
DISCUSSION

Dr. Gilchrist thought that some of the lesions on the back presented the appearance of lichen scrofulosorum, which was of tuberculous origin, and since the patient had tuberculous lungs it was quite possible that the cutaneous lesions were also tuberculous.

Dr. Corlett considered the case very interesting in connection with the work recently done by Stokes, the patient being tuberculous. Many of the lesions bore the appearance of a quasituberculous nature, and the whole condition looked as if the tubercle bacillus might be the main etiologic factor.

Dr. Little thought it was probably a case of lichen spinulosus. The lesions on the back of the fingers were a strong argument for pityriasis rubra pilaris, but the rest of the lesions were so unlike it that he considered it a case of lichen spinulosus.

PRURIGO NODULARIS. Presented by Dr. Schamberg.

A woman, aged 42, presented an eruption which began thirteen years before on the arms, legs, back and shoulders, with itching elevations. Several hundred nodular lesions had developed, with thickened horny surfaces; many were excoriated by scratching. The condition had improved 75 per cent. under the use of roentgen rays and a tar lotion.

CASE FOR DIAGNOSIS. Presented by Dr. Hartzell.

A woman, aged 40, presented three or four split pea-sized, dark red, slightly translucent tumors on both alae nasi. The tumors had been present for about two years and had since been stationary under observation. There were no subjective symptoms. Histologic sections of an excised tumor showed nothing beyond a few slightly dilated lymph spaces in the corium.

DISCUSSION

Dr. Harris thought it was a basal cell epithelioma, and that the section shown was not from that particular growth.

Dr. Weidman stated that he was sure the section shown was from this lesion.

Dr. Pollitzer considered it a form of colloid degeneration. When the lesions were picked with a needle no fluid escaped, and the tumors certainly had an appearance of translucency. He had thought that it might be a lymphangioma but now rejected that diagnosis.

Dr. Hartzell said that so far as he knew the section was from one of the tumors. He did not follow the specimen to the laboratory, but was told that this was the section. He had been unable to make a diagnosis and was still, in spite of the very illuminating (?) discussion.

ACNITIS. Presented by Dr. Strickler for Dr. Schamberg.

A man, aged 30, developed in February, 1919, a pustular group of lesions on his lip near the corner of his mouth. Later there appeared on his forehead, face, and also on his back, pinpoint to pinhead sized pustular lesions presenting a slight inflammatory areola, which on disappearance left a depressed, punched-out scar. Some of the lesions, particularly those on the forehead, presented the appearance of small nodules located deeply in the subcutaneous
tissue. The general health of the patient was good. The von Pirquet test was positive, the Wassermann reaction negative. Physical examination disclosed chronic, inactive pulmonary tuberculosis and this finding was confirmed by roentgen-ray study of his lung.

**DISCUSSION**

Dr. Hartzell considered the lesions on the forehead much like those of acne varioliformis.

Dr. Schamberg thought the case came very definitely in the group of those described as acnitis. There was an interesting association in this case with active pulmonary trouble; there had always been a question as to the relationship between acnitis and tuberculosis.

Dr. Gilchrist stated that he had seen a patient twenty years before who had had numerous nodular lesions scattered over the face. Sections taken at that time showed caseous degeneration in the center of the nodule and other features of tubercles, but inoculation tests into guinea-pigs gave negative results, and no tubercle bacilli were ever found in the sections. Since he could never find the cause of the disorder he had never recorded it, but it was undoubtedly a case of acnitis.

**BENIGN CYSTIC EPITHELIOMA (Brooke-Fordyce Type). Presented by Dr. Hartzell.**

A woman, aged 40, had many hempseed to split pea-sized yellowish-white nodules over the central third of the face—the forehead, cheeks and nose being principally involved. The disorder began when she was 17 years of age, and was accompanied by no subjective symptoms.

**KERATOSIS OF LIP. Presented by Dr. Schamberg.**

A man, aged 30, presented a patch on his lip. It was about three fourths of an inch in length and three eights of an inch in width and had been present for two years, occupying the central portion of the lower lip. It was grayish-white in color and slightly thickened to the touch. No other patches were present on any other portion of the lips or in the mouth. The patient had smoked a pipe moderately, but had always held it in the angles of the mouth, at which points no keratosis was present. The cutaneous surface was generally free of lesions.

**DISCUSSION**

Dr. Gilchrist thought the condition looked like lupus erythematosus, and recommended the use of radium therapy. He had a case of this disease under observation and the patient, a woman, had numerous typical lesions on the face, ears and back, and one lesion on the red portion of the upper lip, which had the appearance of the lesion in this case.

Dr. Corlett disagreed with the diagnosis of lupus erythematosus, but did not know what it was.

**TUBERCULOSIS OF THE MUCOUS MEMBRANE OF THE MOUTH. Presented by Dr. Strickler for Dr. Schamberg.**

A man, aged 37, developed pain in the throat which lasted for six months and then disappeared. At the expiration of this period thickening and ulceration of his cheek and lip on the left side developed. This condition had been
progressing for nine years, in spite of treatment. The Wassermann reaction and the provocative Wassermann had both been negative. A piece of tissue removed from the diseased area had shown a histologic picture typical of tuberculosis.

Treatment had consisted of fulguration, roentgen rays, tuberculin and arsphenamin, but there had been no improvement in the patient's condition.

**DISCUSSION**

Dr. Gilchrist thought it might be a tuberculous lesion, and suggested a method of staining for tubercle bacilli. He stated that the organisms were found quite easily in such lesions, as they were usually numerous. A scraping mashed between two slides until dry and then stained as for tubercle bacilli in sputum would demonstrate the presence of tubercle bacilli more easily than they could be demonstrated in sections.

Dr. Hartzell believed it was a case of tuberculosis of the mucous membrane.

**UNILATERAL ACROMEGALY.** Presented by Dr. Schamberg.

A negro boy, aged 12, whose previous history was unobtainable, had a normal left arm and leg but the right hand, wrist, forearm, arm, leg and foot presented the appearance of belonging to a child several years older. The cutaneous, subcutaneous and bony structures were normal, but the extremities strikingly larger than on the left side. The Wassermann reaction was positive, but no stigmas of syphilis were present. A radiograph of the sella turcica showed no deviation from the normal.

**CHEILITIS GLANDULARIS.** Presented by Dr. Hartzell.

The patient was a man, aged about 30, whose lower lip was markedly swollen and everted. A few small crusts and many small openings on the surface exuded mucus. The disorder was painful and had been present for sixteen months.

**DISCUSSION**

Dr. Harris called attention to the presence of a mole on the right side of the back.

Dr. Hartzell stated that the man had a leukoplakia, which he thought had nothing to do with the disease of the lip.

**CASE FOR DIAGNOSIS.** Presented by Dr. Schamberg.

A colored girl, aged 12, presented on the dorsal surface of the hands oval, pad-like plaques, over all the second phalangeal articulations. The plaques were smooth, slightly more pigmented than the surrounding skin, and thickened. The patient was unable to give information as to the duration of the affection.

**DISCUSSION**

Dr. Hartzell thought it looked like a keloid.

Dr. Little believed the nearest diagnosis was to be found in a case of tumors on the knuckles, called "blue knuckles," described by Hutchinson.

Dr. Pollitzer had seen the same condition in a patient with lichen planus, and it had disappeared under treatment for that disease. His case occurred
in a woman who had about the same degree of mixture of races seen in this patient. He considered it a peculiar manifestation of lichen planus, and had never seen it in any other case.

GRANULOMA FUNGOIDES. Presented by Dr. Hartzell.

A man, aged 62, presented coin to palm sized, irregularly shaped and annular, dark red patches, some of which were slightly infiltrated, over the trunk, face and arms; also two small, button-like plaques on top of the left shoulder. The disorder had been present for three years, accompanied by intense itching.

PITYRIASIS RUBRA PILARIS ON THE BODY ASSOCIATED WITH LICHEN PLANUS IN THE MOUTH. Presented by Dr. Gilchrist.

A woman, aged about 30, first seen at Johns Hopkins Dispensary five weeks before, at that time presented a typical eruption of pityriasis rubra pilaris on the outer surfaces of both upper arms and about the elbow joint region and upper forearms, and also typical lesions of lichen planus in the mouth. The skin lesions were pinhead sized, conical or rather acuminate and firm, forming slightly horny collections around the hair follicles, and were of the same color as the skin. The whole appearance was that of a nutmeg grater. The patient was kept under observation and the eruption continued to spread on the upper arms, lesions of the same character appearing on the back and chest also. The lesions in the mouth were on the inner surface of the cheeks, and presented the typical appearance of lichen planus. This was the first case that the speaker had seen or heard of in which the two eruptions appeared on the same patient at the same time; i.e., the typical eruption of pityriasis rubra pilaris on the body with no other kind of lesion present, and typical lesions of lichen planus in the mouth. The case seemed to be an illustration of the relationship of the two diseases. On the day of presentation, when the patient had not been seen for a week, a small number of new, fairly typical lesions of lichen planus were visible on both forearms.

DISCUSSION

Dr. Zeisler thought the total absence of lesions on the top of the nose and backs of the fingers made it an undoubted case of lichen planus and nothing else.

Dr. Little believed the case illustrated the statement made in his paper, that when the lichen planus was acuminate there was trouble in differentiating it from pityriasis rubra pilaris. The plain and acuminate lesions were both present, but the plain undoubtedly preceded the acuminate. He asked whether the cases, with the combination of the acuminate and plain lesions, were very common.

Dr. Wise thought those who made a diagnosis of lichen planus were prejudiced because of the lesions in the mouth. He believed it was a case of pityriasis rubra pilaris with lesions in the buccal mucous membrane. Cases like this were described in the European literature, and if this was lichen planus it was not the kind one was accustomed to see.

Dr. Corlett thought there were two distinct eruptions present. The lesions about the elbow were vesicular. The patient presented some lichen papules in the mouth and a number of typical, shiny-topped lichen planus lesions on the forearm. He had never observed a vesicular stage in lichen planus; therefore, he was inclined to the opinion that there were two diseases present.
LEUKEMIA CUTIS. Presented by Dr. Hartzell.

A man, aged 45, had many fingernail-sized, flat, wheal-like elevations on the buttocks, the posterior surface of the thighs, forearms, elbows and wrists. The duration of the individual lesions varied from two to three days to weeks, those on the elbows and wrists persisting longest, and on those regions they were quite livid. There were no subjective symptoms except in cold weather when there was considerable itching and burning, especially the latter. The patient had a marked leukocytosis which at one time reached 130,000, principally small lymphocytes. There was marked improvement of the blood condition under roentgenotherapy, but little or no change in the cutaneous symptoms. The disorder had been present for seven or eight years.

COLLOID OR HYALINE DEGENERATION OF THE SKIN. Presented by Dr. Gilchrist.

A man, aged 38, presented a disorder which began during the first year of life with yellowish spots on his body. According to the statement of the patient, at times, during the summer only, a large blister would form around the joints (elbows, knees) and body, neck and face, which would speedily rupture, leaving sores which lasted a month or more and which were followed by scars which were still present. The condition had remained about the same for the past fifteen years except that there had been few bullae, and a few superficial ulcerations had occurred on the legs.

The patient was first seen by the speaker seven years ago. At that time, so far as could be determined, all of his lesions were confined to the skin.

At the time of presentation the scalp showed marked alopecia, and presented a diffuse, ill-defined, more or less reticulated appearance, with areas of normal skin, and light yellow, flat and apparently noninfiltrated, nonscaly patches with ill-defined discolorations intermingled. Toward the face and neck these spots occasionally presented a nodular elevation. Scars were also seen, some roundish and apparently due to healed ulcerations, others linear and almost certainly of traumatic origin, and without any relationship to the disease. The face showed a marked rugous appearance, with the furrows much exaggerated. There was a marked pitting, as from variola, with a slight pinkish tint around the scars. The light yellow color, seen on the scalp, was much more distinct on the face. When stretched the rugged condition flattened out and pinhead-sized lemon-colored thickenings could be seen, sometimes about the follicular openings which appeared in the exact center of the nodule. There were also larger, irregular, linear and sometimes stellate scars, often showing a cribiform appearance. The eyelids and ears showed marked evidence of the same
kind of diffuse yellow thickening. On the neck the papular thickening was more pronounced than on any other part of the body, practically every square inch of its surface being involved.

The eruption on the body showed a diffuse discoloration throughout most of its surface, and around the scars the lesions were raised and lumpy, with a follicular distribution. The scars were variable in size, but the greater number were large and irregularly outlined. Some of the largest lesions were situated along the vertebral column, where the nodular appearance was marked. Some of the nodules were normal in color and some yellowish. Toward the axillae the natural folds of the skin were deeper and the lesions presented marked papillomatous prolongations, covered with smooth epithelium. The groins showed the same general appearance, although the prolongations were not so marked, and the surface presented a general hobnailed appearance. The scrotum was likewise affected, especially near the base of the penis.

The arms showed lesions similar to the mildest ones on the trunk. On the hands there was marked papillary hypertrophy, with filiform horny proliferations, most marked on the web between the thumb and forefinger, on the backs of several of the fingers, in localized patches on the palms and the palmar surfaces of the fingers, and to a slightly less extent on the flexor surface of the wrist. There were probably hundreds of these lesions to the square inch; the nails were not affected. On the legs were a number of scars; the soles were not affected.

The urine was an amber color and clear, specific gravity 1.024, slightly acid, no albumin or sugar, and microscopic examination revealed no abnormalities.

Dr. Hazen had found both the red blood cells and hemoglobin normal in amount and no parasites were found. The leukocyte count was 8,500; a differential count of 500 stained by the Jenner methods showed no departure from the normal.

Two portions of tissue had been excised for microscopic examination, one from a papillomatous lesion on the anterior fold of the left axilla, the other from a flat diffuse, yellow plaque on the back. The most striking features seen in the sections were great involvement of the corium with a diffuse, homogeneous form of degeneration that apparently answered to the color reactions for colloid degeneration.

In the tissue from the papillomatous area it was noted that the outgrowths were about 1 mm. in diameter and about the same height, the surface being irregular. Each outgrowth was subdivided by downgrowths of the rete, the horny layer extending well down into the rete at these places. Otherwise the horny layer was normal, being of about the usual thickness, and the cells stained normally. The granular layer was entirely lacking, and the prickle layer was reduced to the thickness of two cells, which lacked prickles and could only with difficulty be told from the basal cells, which were not of the characteristic columnar shape; in fact, all the cells of the rete resembled the so-called cuboidal cells which normally lie just above the basal layer. There was no edema or cellular infiltration, and the cells showed no evidence of degeneration. The ordinary wavy outline between rete and corium was missing, but from the rete long slender downgrowths penetrated well into the subpapillary portion of the corium. These downgrowths had cells of the same type as those just described, and one or two ended in small cysts, which contained no substance and did not show a distinct lining membrane. There was no branching of any of these processes.
In the corium the blood vessels were few in number, and the walls of the deeper ones were distinctly thickened, the cells being filled with a homogeneous substance, which was apparently a colloid degeneration. The sebaceous glands were normal and showed no signs of degeneration. Hair follicles were very sparse, and very few of the sebaceous glands could be found. This section was from the anterior portion of the axilla, but the sweat glands were few in number and in places the coil glands were entirely replaced by this opaque substance. The whole picture of the sweat glands (as seen under the microscope) was extraordinary. Where they were apparently present, they were surrounded by a markedly thick capsule of degenerated material. The sweat ducts showed signs of the same degeneration in the capsule; in one or two places the ducts were greatly extended, but were empty and the walls appeared normal. Practically all of the connective tissue of the papillae and of the subpapillary portion of the corium had undergone this degeneration, the fibers of the connective tissue being thickened and nearly straight. Some sections from a flat nodule showed the whole thickness of the corium filled with this apparently homogeneous degenerative substance. Sections stained with acid orcein showed that the elastic tissue was normal.

The Wassermann reaction was negative. The eruption did not follow any special disease which usually produces degeneration. The disease began primarily in the skin.

**Discussion**

Dr. Corlett said that Dr. Morrow had just reminded him of a similar case shown by him before the International Dermatological Congress in New York—that of a young woman with what was called nevus of the back. The lesions consisted of slightly elevated areas of skin mainly over the scapula and nape of the neck in which there were minute, dark openings of the sebaceous glands, an almost paper-box like appearance. The case created a good deal of discussion. Dr. Oscar Schultz made a histologic study, but Dr. Corlett could not recall offhand just what the findings were, aside from a general hypertrophy of the skin and of the sebaceous glands. He had been informed during the past year that the disease had progressed slightly.

Dr. Hazen had seen the case seven years ago with Dr. Gilchrist. Sections had been taken out and turned over to a laboratory man, but they were spoiled in transit. The sections were very thick and apparently gave the typical reactions for hyaline degeneration rather than colloid, but Dr. Ketron thought the changes due to the colloid rather than to the hyalin. He did not know whether or not this was due to the age of the lesion.

Dr. Pollitzer said he had been speculating on the possibility of a metabolic basis for this metamorphosis or degeneration. The cases of colloid degeneration were usually very limited; one seldom saw extensive patches. As a rule, they were only lenticular and occurred in regions which were exposed, as on the face, arms and knees, in people leading an outdoor life, such as gardeners and farmers. In this case there was a universal degeneration, with mechanical changes in the epidermis. In his opinion this case was a different type pathogenically from the small circumscribed patches usually seen in colloid milium. He wondered whether there might be some endocrin disturbance, such as produced myxedema in a thyroidism, as a foundation for this peculiar change.

Dr. Gilchrist stated that the man was apparently perfectly well, and he said he had been in good health for twenty years.
Dr. Ketron, referring to what Dr. Hazen had said in connection with the staining of the specimens, stated that he had relied principally on Unna's differential stain between colloid and hyaline degeneration. This stain is composed of acid fuchsin and picric acid. Colloid material stained yellowish with the picric acid and hyaline material stained red with the acid fuchsin. Most of the degenerated material in a number of specimens taken from this case and stained with this stain, took the yellowish picric acid color in preference to the red of the acid fuchsin. Of course, if the sections were stained too long, all of the material stained red. The degenerated material also did not take eosin as one would suspect if it were hyaline. The case clinically did not resemble the cases of colloid degeneration which have been described in the literature, one of which the speaker had had the opportunity to study. The papules on the hand were similar in some respects, but they lacked the apple-jelly content, which could easily be picked out of the little nodules. The staining reactions, however, of the degenerated material more nearly resembled this condition than any other type of degeneration of the skin.

NEVER YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY AND SYPHILIS

Regular Meeting, Oct. 7, 1919

JOHN E. LANE, M.D., Chairman

MILIARY LUPUS. Presented by Dr. MacKee.

A. S., an Italian, married, aged 26, from the service of Dr. Fordyce, presented an eruption of about six months' duration. Scattered over both cheeks and the forehead were perhaps fifty pin-head to lentil-sized, semitranslucent, firm nodules, conical in shape and elevated well above the surface of the skin. The color was a pale, brownish red. Many of the lesions had undergone a central dry necrosis and were capped with a crust. The diagnosis rested between acnitis and miliary lupus. A biopsy revealed the histology of tuberculosis.

DISCUSSION

Dr. Highman said that microscopically the case was of the type described technically as miliary lupus.

Dr. Pollitzer said that clinically the case did not impress him as an acnitis. The lesions were too uniform and were not in the constant state of evolution of acnitis—one or two or three coming on all the time. They were not so large as the lesions of acnitis and were limited entirely to the face, which is not the rule in acnitis; also they were much too red in color. He agreed with the microscopic diagnosis of miliary lupus disseminatus.

NEVUS PILOSUS ET PIGMENTOSUS. Presented by Dr. Scheer.

E. Z., a girl, aged 6, from the service of Dr. Fordyce, presented lesions in these locations: an orange-sized patch behind the anterior fontanel; a small patch in the left frontal region; dollar-sized patches on the outer side of the right knee and in the lumbar-sacral region, and an egg-sized patch in the intergluteal cleft, on the left knee, and above the left ankle. There were a few smaller patches scattered irregularly over the trunk. The largest lesion
extended from the occiput on a level with the tops of the ears down the back as far as the lumbar region. The entire left shoulder was covered. The lesions were all pigmented and covered with hair.

DISCUSSION

Dr. Highman said that he had discussed the case with Dr. Pollitzer. There was an eruption on the buttocks which was of considerable interest, being a classical example of Parrot's dermatis syphiloid post-erosif. The actual facts connected with such cases were pointed out by Leopold of New York as an eruption in infants whose napkins had been washed with highly alkaline soap. He called it a napkin eruption, a very good English name.

CASE FOR DIAGNOSIS. Presented by Dr. Abramowitz.

Agnes S., aged 5½ years, born in this country, presented herself at Dr. Fordyce's clinic with an eruption on both lower eyelids of four weeks' duration. The left lid presented an elliptical lesion beginning at the lower canthus and extended downward and outward to the orbicular edge. It was 1½ inches long, a quarter inch broad, and was raised about one-sixteenth inch. The lesion was pink, with a faint yellowish tinge, and was slightly indurated. The lesion on the right lower eyelid was practically of the same appearance as that on the left side, but was more indurated and resembled a hypertrophic scar. There was a history of a little tumor on the inner canthus of the right eye, which "lump" disappeared spontaneously in two weeks. This lump contained pus. The diagnosis of dacryocystitis was rejected by the ophthalmologic department of the Vanderbilt Clinic. It was not known what brought on the erythema, and the case was presented for suggestions.

DISCUSSION

Dr. Pollitzer said his first impression was that there was inflammation in the duct—a dacryocystitis—but one must accept the ophthalmologist's statement that it was not a dacryocystitis. The history did not throw much light on the case, so far as the etiology was concerned. If it were only on one side, one might think of a low grade infection resulting in persistent erythema and edema, but there was no history of any preliminary lesion that might be interpreted as an infection on both sides, and it was difficult to understand why it should be bilateral and symmetrical. Nevertheless, cases of bilateral elephantiasic swellings under both eyes were well known as the result of recurrent erysipelatous inflammation.

CASE FOR DIAGNOSIS. Presented by Drs. Lane and Alling.

Joe S. came to the New Haven Dispensary in April, 1918, presenting a tumor about 10 mm. in size, involving the outer end of the tarsus and the adjacent conjunctiva. A small piece was excised, and under the microscope proved to be of granulomatous character. Further investigations were impossible as the patient did not return for about a year, when the appearance was much as presented. The lids and the ocular conjunctivae of both eyes were infiltrated by a new growth which had thickened them, and at the same time had produced contraction, resulting in the complete obliteration of the conjunctival sacs of the right eye (total symblepharon), and the remarkable protrusion and buckling of the lids. Most of the growth was yellow like xanthelasma. Two Wassermann reactions were negative, and the von Pirquet test was mildly positive. A recent microscopic examination disclosed the fact
that it was made up of fibrous tissue with areas of granulation tissue and a few poorly formed giant cells. In the cultures a fungus developed, but this proved to be innocuous when transplanted in the rabbit.

**DISCUSSION**

Dr. Highman suggested that the case might be an example of essential shrinkage of the eyelid which by many writers is considered as a localized form of pemphigus, and may precede a generalized outbreak of pemphigus by a period of anywhere from two to twenty years. Some years ago, a case was presented before the Section from the Post-Graduate Hospital. The etiology of the disease was unknown. It did not seem to be a new growth, and since Dr. Highman's knowledge of diseases of the eyelid was very limited, that was the only suggestion he could offer.

Dr. Lane said that trachoma need not be considered. Dr. Alling, who presented the case with him, had had the patient under observation for over a year and it was impossible that he should have overlooked so common a disease.

**NEVUS VERRUCOSUS.** Presented by Dr. Abramowitz.

Catherine C., a baby, 4 months old, born in this country, was brought to Dr. Fordyce's clinic with a lesion on the left hand and wrist, which had been present since birth. It began at the knuckles and extended to the dorsum of the wrist. It consisted of a central erythematous area in which were many small vessels with heaped-up scales and fissuring at the margin, giving the impression of a lymphangioma. Part of the lesion had been removed by carbon dioxid snow. It seemed probable that it was a nevus verrucosus and lymphangioma.

**PITYRIASIS RUBRA PILARIS.** Presented by Dr. Bechet.

P. H., aged 25, from Dr. Trimble's service at the University and Bellevue Clinic, exhibited diffused scaly plaques, on the extensor surfaces of the forearms near the elbows, which he stated had been present for ten or twelve years; these plaques were distinctly follicular at their lower margins. The palms of the hands were markedly thickened and horny. On the dorsal surface of the fingers and hand were follicular, pale red papules, many of which were confluent and pierced by a stiff broken hair. The knees were also involved, presenting much the same appearance as the elbows. The feet also were involved.

**LUPUS ERYTHEMATOSUS OF THE FACE; TUBERCULOSIS OF THE BUTTOCKS; PAPULONECROTIC TUBERCULIDS OF THE FOREARM.** Presented by Dr. Scheer.

M. S., a man from Dr. Fordyce's clinic, presented a typical patch of lupus erythematosus on the face which had been present for six months. He had had a similar eruption in the same location twenty years before, which lasted one year. Ten years before, a fistula appeared on the right side of the anus followed two years later by one on the left side. He was operated on on several occasions for fistulas. The present condition of the buttocks followed shortly after the last operation. Both buttocks were brawny, livid red, and presented numerous sinuses exuding pus. A typical papulonecrotic tuberculid...
was present on both forearms, there were papules with necrotic centers and also pitted scars, the results of former lesions. The patient gave no personal or family history of pulmonary or other visceral tuberculosis. Examination of the lungs by Dr. Taschman was reported negative. The Wassermann reaction was negative.

CASE FOR DIAGNOSIS. Presented by Dr. Wise.

Thomas B., aged 34, a native of Ireland but a resident of this country for twelve years, presented himself at Dr. Fordyce's clinic with scars and pits on the right side of his nose, of one year's duration. There was a history of numerous comedones which had been picked by the patient, resulting in scars. The ears showed evidences of frostbites. His Wassermann reaction was negative.

SYPHILITIC REINFECTION. Presented by Dr. Chargin.

T. H., a man, aged 24, married, in December, 1916, had an attack of gonorrhea (contact with puella publica), and during this period he developed a sore on the upper middle portion of the tongue, about three-quarters inch from the tip. There was an associated marked submaxillary adenitis; a blood Wassermann test was made which proved positive (+ + +). Soon after, he developed a generalized maculopapular eruption and was referred to Dr. Ormsby of Chicago, who confirmed the diagnosis of syphilis and placed the patient under immediate treatment, consisting of six arsphenamin treatments at weekly intervals followed by mercury injections given once a week and continued, with a rest of but one month, for a period of one and a half years, that is, until May, 1919. The patient was then drafted into the service of the United States army. Prior to entering the service he was advised by Dr. Cole of Cleveland, whose patient he then was, to continue with the treatment while in the service. In camp, he received one arsphenamin treatment (June, 1918) and because of two negative Wassermann reactions (June, 1918) further treatment was discontinued.

Sept. 5, 1919, the patient presented himself with a sore on the shaft of the penis which he had had for three weeks, and which had followed coitus with a puella publica some six weeks earlier. The lesion was somewhat indurated and clinically looked like a chancre. In the following week, several smears by the dark field method revealed Spirochaeta pallida in great numbers. The Wassermann reaction, however, was negative, September 5, September 19, and September 30, 1919. At the time of presentation (Oct. 7, 1919) the patient showed a crusted, somewhat indurated, healing sore on the shaft of the penis, and about a dozen scattered brownish-red papular lesions over the body, these having made their appearance three or four days before. A Wassermann test was made three days prior to presentation, but had not been reported as yet.1 There was a well-marked inguinal adenitis.

To Dr. Chargin's mind, this patient presented all the conditions necessary to establish a case of reinfection. A history of initial lesion with adenopathy followed by secondary lesions; active treatment with arsphenamin and mercury, followed by a negative Wassermann and freedom from clinical manifestations for a year; then, after exposure, an ulcer in which an enormous number of

1. This Wassermann proved to be doubtful. Oct. 9, 1919, the Wassermann reaction was + + +.
spirochetes were demonstrated, with adenopathy, followed in due course of time by a secondary eruption—all these conditions seemed to point to the conclusion that this was a case of reinfection.

DISCUSSION

Dr. Pollitzer said that in his opinion there was no question about the case. Fortunately, we had all the data required to prove the reinfection. Here was a man who had been infected some years before and who had been very well treated, after which he showed a negative Wassermann reaction for a long period without treatment; then there was exposure, followed, three weeks later, by a lesion in the exposed region, on the surface of which the spirochetes were demonstrable in great numbers. The man's Wassermann test was still negative. A month later, the man presented a papular syphilitic eruption. It would seem that the chain of evidence was practically conclusive. There was only one thing missing—a positive Wassermann test at the time of the presentation. Should the last Wassermann report prove positive, the chain would be complete.

Dr. Lapowski was surprised to hear that Dr. Pollitzer supported the opinion of Dr. Chargin that the case was one of reinfection. In his opinion, it was a plain case of late tertiary syphilis—a discrete, large papular eruption on the skin, with a few mucous membrane papules—a form of syphilis usually seen after two or three years of infection. Moreover, in this case, the time which elapsed between the first infection and the supposed reinfection was too short (from one and a half to two years) to exclude the mentioned possibility of late secondary syphilitic lesions. It was quite futile to discuss reinfection until we had means to determine a complete cure of syphilis—not a clinical cure. Was any one ready to announce such a means? All the mentioned data, such as negative Wassermann reaction, previous absence of clinical symptoms, the presence of spirochetes, had no value, even if all were taken together in this case, and the harm done by publishing reports of such cases as instances of reinfection was incalculable.

Dr. Rosen agreed with Dr. Chargin that it was a case of reinfection.

Dr. Parounagian said he agreed with every word Dr. Pollitzer had said.

Dr. Highman said that a very interesting and important point had been raised, and although he was inclined to agree with the conception of the disease as expressed by Dr. Chargin, it must be acknowledged that point by point as Dr. Lapowski had analyzed the case, his position also was absolutely logical and tenable. It was well known that a man could lose all the signs of syphilis—primary, secondary, etc.—and after the Wassermann tests were negative and the other signs of disease had disappeared, the Wassermann test could again become positive. Nor was there reason to suppose that because a man had once been exposed he might not be exposed again. It was also known that at any period during the secondary stage mucous lesions were rich in spirochetes. Thus, in this case, Dr. Lapowski's claims were tenable, although many cases of so-called reinfection were likely. Of course, we had no positive knowledge in the matter, but the one possibility seemed as likely as the other.

Dr. Williams said he wished to emphasize one point: One sees in a large number of syphilitic cases a negative Wassermann reaction and absolutely typical lesions; and he had had a great deal of trouble with surgeons who claimed that since the Wassermann test was negative the case could not be
syphilitic. He had seen many such cases, and in his opinion the negative Wassermann reaction was of very little value in establishing a negative diagnosis.

Dr. MacKee thought that the sequence of events as outlined by Dr. Lapowski in relation to this particular case was quite possible. While Dr. MacKee agreed with Dr. Pollitzer that the case was probably a reinfection, the findings were not conclusive. Without a more complete history of negative and positive Wassermann reactions, a more complete sequence of development from the second chancre to adenitis, to a positive Wassermann reaction, and a secondary eruption, he thought that Dr. Lapowski might be correct in his assertion that all the lesions presented by the patient might be of the secondary stage of syphilis.

Dr. Chargin said that these conditions were necessary to establish a case of reinfection: An initial lesion followed by multiple adenopathy, and this in turn by a secondary eruption. The patient must have received treatment resulting in an involution of the eruption; and for a period of five years following the last evidence of eruption, there should be freedom from any syphilitic manifestations (the so-called "second interval"). If this was followed by another chancre, accompanied by adenopathy, and this in turn by secondaries, the case might be considered a reinfection. This was in the pre-arsphenamin and pre-Wassermann days. Now, with the aid of the Wassermann reaction we need no longer wait for the "second interval." We know that modern treatment will cause an involution of syphilis more rapidly and with greater certainty. The fact that in a period of five years Benario was able to collect 122 cases of reinfection (which number has since been augmented) as compared with but 344 in the sixty-five years preceding the arsphenamin era, proves with reasonable certainty that our modern methods with salvarsan and mercury cure a larger number of patients and does it more rapidly—this was an additional support in favor of the theory of reinfection. If then, it was granted that there was such a thing as reinfection, and if the conditions laid down could be considered as adequate criteria, then this must be considered a case of reinfection.

Dr. Highman said that Dr. Chargin was evidently wrong in the charge he had just made. The Wassermann test became progressively more likely to be positive as a secondary rash appeared; it usually preceded the secondary rash from one or two days to three weeks, or so.

Dr. Chargin asked if it was invariable that a patient with syphilis developed a positive Wassermann test in a given period. There were many cases in which this was delayed. The fact that this patient gave a negative Wassermann reaction to date was in favor of the theory that this was a reinfection. In other words, since the second infection he had not as yet had time to develop a positive Wassermann reaction.

Dr. Highman replied that it was a fact, as Dr. Chargin had said, that there was often something the matter with the serum test, but to use that, an exception to a rule, as proof for a theory, as Dr. Chargin did, was rather poor logic. If a man had a contradictory reaction, one should be surprised rather than willing to use it as something to hide behind.

Dr. Pollitzer said he understood that a specimen had been taken for a Wassermann test three days before, and that the report had not yet been received. He asked when the Wassermann test had been used before that.
Dr. Chargin replied that three Wassermann examinations had been made in a period of about three weeks. The last report was received a week ago and was negative.

Dr. Pollitzer asked if the man had a papular eruption at that time.

Dr. Chargin replied in the negative; and said that the papular eruption had appeared within the last two or three days.

Dr. Pollitzer said that these dates seemed to explain the unusual circumstance of the papular eruption with a negative Wassermann reaction, and he did not hesitate to express the opinion that the man’s Wassermann reaction on the day of presentation would be positive. The fact that syphilis was curable—the general question of its curability—was not the point under discussion. Every one knew that the enormous preponderance of syphilitics were not cured—mainly because they were not properly treated. In the case under consideration, the question was: Had the man today a positive Wassermann? If so, this case had every element of proof of the reinfection. (The report on the specimen taken three days before the meeting was +++.—Ed.)

Dr. Rosen asked for a consensus of opinion as to whether or not the lesions were syphilitic, and received an affirmative reply. He then said that it was well known that the active manifestations of secondary syphilis gave a positive Wassermann reaction. If some of the gentlemen believed that this was not a case of reinfection, and they all agreed that the lesions were syphilitic, why did not the man have a positive Wassermann reaction? That in itself was a proof that the patient had a reinfection, with a beginning secondary eruption.

Dr. Lapowski repeated that the question was: Had we means by which we knew that a patient was cured? In his opinion, we had not.

Dr. Pollitzer said that in his opinion we were justified in assuming a cure of syphilis if after long and good treatment the patient gave a negative Wassermann reaction for several years without treatment, a spinal puncture also having shown his central nervous system to be unaffected. There was, in his opinion, no absolute criterion of cure except a reinfection. The case shown seemed to present a complete chain of evidence for reinfection, and therefore was a case of syphilis in which a cure had been effected.

ACRODERMATITIS CHRONICA ATROPHICANS. Presented by Dr. Wise.

Jennie M., aged 50, a native of Ireland, who had been in this country for thirty years, presented herself at Dr. Fordyce’s clinic with an eruption on the lower extremities of twelve years’ duration. There was a diffuse erythema, with parchment-like atrophy of the skin of the lower extremities, especially of the thighs.

DISCUSSION

Dr. Wise said that the patient showed a classical manifestation of the disease. She had had the condition for twelve or more years and showed all the characteristic features excepting the atrophy on the backs of the hands, which many patients showed after a long period. The etiology of the condition was unknown.

Dr. Lapowski said it would be most desirable to report in the future the condition of the skin in the affected localizations—he saw ulcerations (not of traumatic origin) appearing on the dorsal and plantar surfaces of the feet which could not be classified under any traumatic ulcerative forms; they were
superficial, granulating, round, painful, chronic, lasting months, and undergoing epidermization very slowly and leaving no scars.

Dr. Wise replied that, of course, he did not know the subsequent histories of this class of cases; some of the patients suffered injuries of the leg or the ankle when the devitalized skin was bound down and atrophied and when ulcers developed. One of the cases which he had reported was that of a patient that had ulcers of the lower portion of the legs. A case shown by another of the members had not only ulcers but also a squamous epithelioma. Of course, that was only a partial answer to Dr. Lapowski's question. Probably most of these patients died of old age, but not of the ulcers or the disease itself.

MOELLER'S GLOSSITIS. Presented by Dr. Rostenberg.

Mrs. K., from the Dermatologic Clinic of Mount Sinai Hospital, was 58 years old and the mother of seven healthy, living children. Her family history was insignificant. The patient had never had any serious sickness, and had never suffered from stomach or intestinal trouble with the exception of moderate constipation. The present illness started about two years before, when the patient noticed that while chewing food she would have a burning pain in her tongue, which was most pronounced when eating spicy food or sweet substances, or when taking hot liquids. This condition was always present, but was more exaggerated at times.

On examination, the tongue appeared of normal size. On the left side was an oval area about an inch in diameter on which the epithelium appeared to be excoriated; the surface was glossy and reddened. There was a complete absence of the filiform papillae. This area was extremely sensitive to hot substances. The rest of the tongue seemed normal with the exception of a small irregular area on the right side, which appeared to be hypertrophied, was grayish-white and resembled a patch of leukoplakia. The fungiform papillae throughout appeared to be normal; a few were slightly hypertrophied. The buccal mucosa and the pharynx were normal. The Wassermann test, taken on two different occasions, was negative.

The speaker said that on looking over the literature he was surprised at the scarcity of these cases. The leading American textbooks did not mention them at all; in The Journal of Cutaneous Diseases he had found an article by Dr. Harris of Chicago, who described twenty-six cases. The case now presented tallied very well with those described by him.
Book Review

DISEASES OF THE SKIN. By Richard L. Sutton, M.D., Professor of Diseases of the Skin, University of Kansas School of Medicine; Former Chairman of the Dermatological Section of the American Medical Association; Assistant Surgeon, U. S. Navy, Retired; Dermatologist to the Christian Church Hospital. With 910 illustrations, and 11 colored plates. Third edition. Revised and enlarged. St. Louis: C. V. Mosby Co., 1919.

In this third edition of his text book, Sutton has succeeded in presenting an eminently complete reference book on dermatology and syphilology. The completeness of the work is reflected in several ways; practically all recognized dermatoses are discussed—some briefly, others at great length—according to their relative importance and frequency; the references, placed at the end of each descriptive article, are full and comprehensive and furnish the student with a very accessible source of further research into the literature on any particular subject. Papers read during the past summer (1919) in the meetings of the American Dermatological Association and of the Section on Dermatology and Syphilis of the American Medical Association, are correctly referred to in the proper places—one cannot ask for more recent indications, in a textbook, of immediate dermatologic and syphilitic activities among our own workers in this field. This edition contains 400 additional references to the literature and eighty new illustrations. The many illustrations add greatly to the value of a textbook of this kind; with few exceptions, the cuts not only are excellent, but many of them are striking, fully serving their purpose. Among exceptions might be mentioned Figure 208, page 309 (ecthyma); Figure 318, page 423 (keratosis palmaris) and Figure 469, page 595 (syringocystadenoma). The colored plate depicting rosacea, page 890, leaves much to be desired, from the standpoint of the reproduction of nature's tints on paper. Testimony of Sutton's ingrained gallantry toward the gentle sex is well submitted in his label of Figure 395, page 523: "An unusually extensive case of xanthema palpebrarum in a young woman;" the poor woman is well past 60, if she's a day old. And, parenthetically, according to Sutton's own references to Pollitzer's works, the words "xanthoma palpebrarum" ought to be replaced by the word "xanthelasma." It would be better to omit "vitiligoiden" as a synonym for xanthoma, as it only tends to confuse the student, and is essentially redundant.

Hypercritical comment is out of place in a general review of this kind, but the conscientious reviewer finds it difficult to refrain from noting a deplorable lack of care on the part of the printer and proof-reader. For example, "acarophobia" is correctly spelled in the text, but in the index is spelled "acrophobia"; omission of the second "a" would indicate a word meaning "fear of the extremities." The clinical photograph of "folliculitis ulcerethematosa reticulata" is euphoniously but ludicrously labelled "follicularis ulcerethematosa reticularis," while the histopathologic cut, on the succeeding page (563) is labeled "follicularis ulcerethematosa reticulata," so that we are confronted with the edifying spectacle of three different appellations for one and the same brand new disease, on one and the same page! To an old, dyed-in-the-wool proof reader, this is almost heart-rending! There is a good sprinkling of such errors in the book.
The value of the work is greatly augmented by the plentiful supply of histopathologic cuts, all of which are good. In the opinion of the reviewer, a suitable histopathologic cut accompanying the textual description of the morbid changes in the various important diseases would be ideal, enabling the student to appreciate the pathologic changes in different conditions. The cuts depicting the microscopic appearance in syphilis are especially noteworthy, and deserve careful study.

The subject of syphilis is treated extensively. Sutton believes that the intramuscular use of arsphenamin has distinct advantages over the intravenous administration—a belief based on his own personal experience and that of Craig. He says that "This method which is by far the most efficient, if one is to judge by the serologic results (Craig), is far less popular than it should be, largely owing to the fact that it is extremely painful unless properly carried out." The references at the end of the chapter on syphilis are complete and quite up to date.

The book is printed in large type, on stout glazed paper and is well bound. The author has evidently spared no effort to present a thorough and eminently authoritative book, destined to be of great value not only to the student and practitioner, but also to the research worker and writer. The conciseness and clearness of its diction commend it especially for use in undergraduate teaching.
V.—MONILIA CANDIDA INFECTION OF
THE MOUTH*

MOELLER'S DISEASE, PNEUMOCOCCUS INFECTION OF THE TONGUE, ETC.

M. F. ENGMAN, M.D., AND R. S. WEISS, M.D.

ST. LOUIS

J. B., aged 53, a heavy-set laborer, well nourished, entered the Barnard Free Skin and Cancer Hospital, Jan. 22, 1916, complaining of a sore mouth. He stated that the condition had existed for seven years. He did not know how the trouble began, but stated that he was a constant tobacco chewer. About four or five months before his entrance to the hospital he was injured in some way, and the cheek was nearly cut through.

He presented over the entire left side of the buccal mucous membrane, invading somewhat the right side, a thickened mat of whitish filiform projections which was sharply defined against the healthy mucous membrane. The appearance of the entire lesion was peculiar, looking at first glance like a form of leukoplakia. It mounted to the hard palate, sweeping over it and throwing out a peninsular extension to the right side and extended backward to the left pillar of the fauces. Here it was fissured, particularly at the angle of the mouth and at the junction of the buccal mucous membrane with the ramus of the jaw.

All of the teeth of the left side of the lower jaw had been extracted. The peculiar appearance of the lesion could be described best as a "frozen doormat" appearance, i. e., a doormat covered with frozen moisture as one frequently sees in the winter, the white filiform projections being thickly matted and of a white glistening appearance on a whitish macerated base. (See Figs. 1 and 2.)

*Studies, reports and observations from the dermatological departments of the Barnard Free Skin and Cancer Hospital and the School of Medicine, Washington University, St. Louis, Mo., U. S. A., service of Drs. M. F. Engman and W. H. Mook.
Scrapings from the lesion, prepared with potassium hydroxid in the usual way, disclosed a peculiar fungus which we thought at first to be some variety of the trichophyton group, but on further study we saw that it was something unique, and sent the cultures and smears to Prof. George Moore of the Missouri Botanical Gardens, who kindly furnished us with this report:

"The fungus which you sent me is undoubtedly the Soorpilze of Plaut. While there have been some dozen names attached to this plant, I am inclined to think that Plaut's decision that it should be called the Monilia candida, as described by Bonorden, is correct. At least until it is more carefully studied, this is the name it should go under. It certainly is not a yeast and both microscopically and culturally it corresponds with the organism with which Plaut worked and which he described in his 'Neue Beiträge zur systematischen Stellung des Soorpilzes in der Botanik.'"
This fungus was constantly found and was so firmly engrafted on the lesion that we considered it the probable etiologic factor. No antiseptic mouth washes or applications affected its growth in any way. We did not take out a piece of tissue for fear of metastasis.

![Fig. 2.—Monilia candida infection of the mouth.](image)

In the anterior portion of the lower jaw, at the junction of the gum with the buccal mucous membrane, was a raised infiltrated lesion about 2 cm. in diameter which looked very suggestive of a carcinomatous change. The lesion was raised and hard, and somewhat lobulated
along the edges of the gum. There were enlarged glands under the jaw on the left side. The Wassermann reaction was negative, and there was no history of syphilis.

As no local treatment seemed to affect the progress of the condition, the patient was put under anesthesia and the whole area was cauterized, which did not seem to delay the peripheral extension of the process; in fact, it seemed to accelerate rather than to retard it. It extended rather rapidly, involving the mucous membrane of the palate on the right side by a sharply defined raised border, leaving in

Fig. 4.—Pneumococcus infection of the tongue.

its wake the "frozen doormat" appearance, the fungus remaining constantly present.

Finally, the suspicious area on the left lower jaw became so markedly carcinomatous that an operation was performed. The patient dropped from sight then for some months, but has since returned and, only a few weeks ago, a final operation was done for the carcinomatous process of the mouth. This operation necessitated the removal of almost all of the lower jaw.

Although we have not demonstrated the etiologic relationship of this fungus to the condition in the man's mouth, we believe that the invasion of the fungus through its constant irritation for years was
sufficient to produce the so-called cancerous degeneration that so frequently occurs in any prolonged inflammation of the mucous membranes, and we present the case as unique in its clinical and bacteriologic aspects.

MOELLER'S GLASSITIS

Case 1.—Mrs. S. came for treatment for a sore mouth which she had had for nearly a year. The tongue and the buccal mucous membrane had, during the course of the disease, been so sore and painful that food could not be taken without great suffering. This condition was so marked that the patient had lost greatly in weight and was in a hysterical and almost desperate condition.

On examination, at the time of her first visit, the buccal mucous membrane of the right side presented migratory plaques of a mildly inflammatory condition which seemed to be spreading peripherally by the raising up of a fine white line of epithelium in its progress, leaving in its wake a reddened inflamed area, extremely painful. These areas, according to the testimony of the dentist who accompanied the patient, would alleviate or, as he expressed it, "jump from one part of the mouth to another." There was also a similar lesion on the left side of the tongue. The dentist had applied the usual mouth washes and treatments of various applications without result. The patient was seen one week later and the following note was made:

The patient states that yesterday her mouth was apparently free from any disease when rather suddenly the burning sensation which usually precedes these attacks began. This was felt on the right side of the tongue and upper lip. This morning after experiencing these sensations the lip is swollen and the tongue presents some patches. On examination of this condition it is found that the right half of the upper lip is swollen and on the mucous membrane of the posterior surface of the lip there is an oval patch, 1.5 cm. in

Fig. 5.—Pneumococcus infection of the tongue.

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ENGMAN—WEISS—MONILIA CANDIDA

123
diameter, with a slightly raised border of whitish epithelium, the whole of the remaining area being intensely red in color. On the tongue is an oval ridge enclosing an intensely reddened area. This ridge runs at right angles to the long axis of the tongue. These patches are very sore and burn so intensely that the patient states that she can eat only liquid food.

The lesions had the appearance of a parasitic infection, and we might have considered them as such had they not been so rapid in their spread. The diagnosis of Moeller's glossitis was made, and the patient

Fig. 6.—Chancre of the tongue.  
Fig. 7.—Chancre of the tongue.

Fig. 8.—Early syphilis of the tongue.

was sent to the Barnes Hospital for a thorough overhauling. There the findings were absolutely negative as to any constitutional or intercurrent disease. The roentgen-ray plates of the teeth showed several pus pockets, and smears of the pus from these pockets showed the endameba. Two diseased teeth were extracted, and under emetin and local treatment the pyorrhea disappeared. Since that time the patient has been absolutely well with no return of the disease.
This case is interesting in that out of the twenty cases gathered from the literature by Harris, only three were reported as having recovered. The case above discussed recovered and the only possible etiologic factor discovered consisted of apical abscesses and pyorrhea.

Fig. 9.—Early syphilis of the tongue and oral mucous membrane with interstitial glossitis.

Fig. 10.—Early syphilis of the tongue and oral mucous membrane with interstitial glossitis.

Case 2.—Mr. G. had the disease only on the tongue, but with the same clinical symptoms as the one above. The lesions are well shown in Figure 3. Unfortunately, we were not able to control this patient as we did the former one, and no results were obtained from treatment.

Pneumococcus Infection of the Tongue

Case 1 (Fig. 4).—This patient appeared at the dispensary, Nov. 7, 1917, complaining of a sore tongue. He first noticed blisters on the tip of the tongue, which became hard and leathery about six weeks before. He gave a history of having had syphilis some years before with syphilitic treatment ever since.

Fig. 11.—Late syphilis of the tongue.

Fig. 12.—Gumma of the tongue.

Examination of the tongue showed circinate white patches which were distinctly furry and definitely raised, involving practically the entire upper surface of the tongue. The center of the tongue almost had the appearance of "black tongue" in that the villous projections were covered by a dark brown or black material which was difficult to remove. On the tip there was a raised, hard plaque 1 cm. in diameter without furring. The mucous mem-
brane of the hard palate and the cheeks was involved in a similar manner, but these patches were grayish white. The Wassermann reaction was negative. Potassium hydroxid preparations were negative for fungi. He was given 0.5 gm. of arsphenamin without any effect on the lesions.

Scrapings from the tongue showed numerous epithelial cells, a very few Vincent’s organisms, no diplococci and no fungi. Cultures, however, gave a nearly pure growth of pneumococci, among which were scattered a few colonies of *Micrococcus catarrhalis*.

The patient was called out of the city and we were unable to follow the case any further.

Case 2 (Fig. 5).—The patient, a Chinaman, stated that for the last few months his tongue had been sore. He presented a serpiginous inflammatory process involving the anterior portion of the tongue, characterized by numerous tiny, circular papules, the entire process having a definite border which seems to be advancing. Potassium hydroxid preparations from the tongue were negative for fungi. Cultures showed numerous colonies of *Micrococcus catarrhalis*, the pneumococcus and a few thread-like organisms. It was impossible to determine the causative organism from the cultures but the findings in the previous case and the somewhat similar clinical appearance suggested that this case might also be a pneumococcic infection.

On this basis, the patient was treated with a solution of oxgall which has a dissolving effect on the capsule of the pneumococcus. A saturated aqueous solution of oxgall was painted on the tongue daily for four days with immediate relief of the burning and discomfort. The application was then continued every other day for only a few times, and the final result was a complete cure.
Syphilis of the Mouth and Tongue

Case 1 (Fig. 6).—Chancre of the Tongue.—This patient was seen for the first time April 4, 1916, complaining of a sore on the tongue. He did not know how he contracted it, but had suspicion that it might have come from kissing. He gave no previous history of a sore elsewhere on his body.

Fig. 14.—Gumma of the tongue.

Fig. 15.—Gumma and carcinoma of the hard palate.

Examination revealed an ulcer about 1.5 cm. in diameter on the right side of the tongue at the tip. The border was slightly raised and somewhat infiltrated; the base had a raw, red appearance with a grayish membrane at the border. There was a marked adenopathy of the submaxillary and lingual glands. Spread generally over the trunk was a maculopapular eruption, which had appeared six weeks after the sore on the tongue. The dark field examination for the spirochete was positive and the Wassermann reaction was 4+. 
He was put on intensive treatment at once, and the lesions promptly disappeared. Although he was kept on treatment for a couple of months, he appeared at the office in December, 1917, with symptoms of central nervous system involvement. A spinal puncture was done at the Barnes Hospital, and the fluid showed increased pressure, a cell count of 246 mononuclears and positive Wassermann and Ross Jones tests. He received 0.2 gm. of arsphenamin and daily injections of bichlorid of mercury, with complete rest in bed for a month. His improvement was marked and, when discharged from the hospital, the cell count had dropped to 30.

This case not only illustrates chancre of the tongue, but also the frequent early involvement of the nervous system in initial lesions of the head.
Case 2 (Fig. 7).—Chancre of the Tongue.—This patient entered the hospital with a sore on the tongue of one month's duration. On the left side of the tip of the tongue was a destructive crateriform ulcer, very inflammatory. There was marked cervical and submaxillary adenitis but no secondary eruption was evident. The lesion healed very quickly on mercurial injections. At first glance the lesion looked like a gumma but the location, acuteness and marked adenopathy served to differentiate it.

Case 3 (Fig. 8).—Early Syphilis of the Tongue.—The patient had very curious circinate and papular lesions on the tongue. Mercury by mouth was given with absolutely no effect on the lesions but the disease disappeared completely on injections of arsphenamin, to recur a month or so later when the arsphenamin was discontinued. The case is illustrative of mercury fast spirochete, a not uncommon occurrence.

![Image of a mouth with lesions](image-url)

Fig. 18.—Lupus erythematosus of the lip.

Case 4 (Figs. 9 and 10).—Early Syphilis of the Tongue and Oral Mucous Membrane.—This patient entered the clinic May 29, 1918, and gave a history of having had a chancre followed by an eruption. He was treated for several months, and all the lesions cleared up with no trouble until the present time. The present trouble began about a month before we saw him when he noticed a soreness of the tongue. He presented thick mucous plaques on the oral mucous membranes, with special involvement of the tongue. The tongue was somewhat infiltrated with marked interstitial glossitis. On the left hand he also had large squamous infiltrated plaques. The Wassermann reaction was 4+, the lesions healing readily under antisyphilitic treatment.

Case 5 (Fig. 11).—Late Syphilis of the Tongue.—The patient stated that for the last five years he has had sores on his tongue. He presented several ulcerated serpiginous lesions, particularly on the border of the tongue. The tongue itself was very much thickened (interstitial glossitis) and presented numerous foul-smelling fissures. His Wassermann reaction was 4+ at the time he entered the Barnard clinic, May 14, 1917, and on treatment with arsphenamin, mercury and potassium iodid the lesions promptly healed and the Wassermann test was negative the last time he was seen, April 20, 1918.
The last two cases showed interstitial glossitis of syphilitic origin. This condition is rarely mentioned in the textbooks and, in our experience, it is rather common in both early and late syphilis of the tongue.

Case 6 (Fig. 12).—Gumma of the Tongue.—The patient stated that from the time he had an infection of the tooth, two years ago, he has had a sore on his tongue. The tooth was pulled and the lesion cauterized by his family physician but it promptly became worse.

He presented a foul ulceration on the right side of the tongue near the tip, the border of the ulcer being somewhat rolled and very hard. He was put on treatment with arsphenamin, mercury, and potassium iodid and was very much improved when last observed.

This case is illustrative of the fact that latent syphilis has a tendency to produce active lesions after a local irritation. The infected tooth irritated the tongue, and in this location a nest of spirochetes was started into activity, resulting in the formation of a gumma. The gumma had existed about two months and, had it remained much longer and suffered further cauterization, there is very little doubt but what carcinoma would have developed on top of the syphilis.

The location of the gumma in this case is unique, as it is situated on the border of the tongue and not in the center where gummata are usually found. The rather hard and glistening border of the ulcer raised the suspicion of epithelioma, but the response to the therapy instituted, substantiated the diagnosis.
Case 7 (Fig. 13).—Gumma of the Tongue.—This patient stated that he had had a penile sore at the age of 6. No eruption followed, and he had had no further trouble until about six weeks before presenting himself, when nodules appeared on the forehead and tongue. He was 28 years old when first seen by us.

On the forehead were small gummatous nodules. On the dorsum of the tongue there was a raised, hard, nodular, painless mass; just posterior to this was a smaller, similar one. On the right edge of the tongue near the tip was an ulcerated nodule, very much infiltrated and painless. The entire dorsum of the tongue was deeply fissured. The ulcer on the edge looked very much like a chancre. The location in this, as in the last case, is unusual for a gumma, but the absence of massive adenopathy and the concomitant symptoms make certain the diagnosis of gumma. All of the lesions healed very rapidly on mercury and arsphenamin treatment.

Case 8 (Fig. 14).—Gumma of the Tongue.—In this case there was no history of syphilitic infection. In about the center of the left half of the tongue there was a nodule about 2 cm. in diameter which was raised about 5 mm. above the surface of the tongue. It broke down in three weeks, leaving a crateriform ulcer.

When first observed, the patient stated that the lesion had existed about ten days and that it had grown rapidly. From his statement, one might conclude that the lesion was a chancre. There was no massive adenopathy and dark field examination was negative. The Wassermann reaction was positive and the lesion healed rapidly on mercury and potassium iodid.

Fig. 20.—Lichen planus of the oral mucous membrane.
Case 9 (Fig. 15).—Gumma and Carcinoma of the Hard Palate.—This case is illustrative of cancer superimposed on syphilis. The patient had a perforation of the hard palate, and surrounding this was a rolled, hard, elevated lesion that was plainly a cancer. His Wassermann reaction was 4+.

Fig. 21.—Leukoplakia of the tongue with beginning carcinoma.

Fig. 22.—Carcinoma of the tongue.

Tuberculosis of the Tongue (Figs. 16 and 17)

This patient was referred from the medical clinic, July 16, 1918, with a diagnosis of incipient pulmonary tuberculosis and with a request for a diagnosis of a lesion on her tongue. She gave a history of having had a small sore on the tongue about six or seven months previous, located in the center of the tongue and slowly growing worse. Another lesion, on the side of the tongue, began about four months ago and spread fairly rapidly.
In the center of the tongue, about 6 cm. from the tip, the patient presented a ragged ulcer about 1.5 cm. in diameter and surrounded by a granulomatous infiltration, slightly elevated and soft to the touch. On the right side of the tongue, involving practically the anterior two-thirds including both upper and lower surfaces, were two well defined concentric rings of granulomatous tissue, the surface of the tongue inside these rings being studded with tiny tubercles of a yellowish red color and from 1 to 2 mm. in size. The Wassermann reaction was negative and no biopsy was done for fear of disseminating the infection.

Lupus Erythematosus of the Lip (Fig. 18)

This patient was first observed in May, 1913, when the lesions on the lip were thought to be leukoplakia. She was seen again in March, 1916, and the following observations were made: Practically the entire mucous mem-

brane and vermilion border of the lower lip were involved in a red, excoriated and, in places, slightly scaly, inflammatory process with some maceration on the inner surface. The appearance was that so often described as "collodion painted on the surface."

Lichen Planus

Lichen planus of the mouth is of very great importance, as it is sometimes the first indication of the disease. One of our cases existed two years in the mouth before it appeared on the wrist. Another had been in the mouth one year before appearing on the penis as the ring-formed papule, thus showing, as Engman and Mook have pointed out, the apparent similarity of certain clinical types of this disease to syphilis.
Case 1 (Fig. 19).—Lichen Planus of the Tongue.—The patient, first seen on Sept. 28, 1916, presented a macular type of lichen planus with marked lesions on the tongue and mucous membranes of the cheeks. He cleared up completely on bichlorid of mercury injections and several recurrences in the following two years were cleared up with Asiatic pills.

Case 2 (Fig. 20).—Lichen Planus of the Oral Mucous Membranes.—Little history is available, but the patient had a very severe type of papular lichen planus with the typical papular and lace-like lesions on the mucous membrane of the cheeks.

Carcinoma of the Tongue

Case 1 (Fig. 21).—Leukoplakia of the Tongue with Beginning Carcinoma.—This case shows how much dependence can be placed on the statements of a patient, as the subject in this case stated that he had noted the lesions on the tongue only for the last two weeks, but on examination of the tongue, one could see two small carcinomas starting on a base of an old leukoplakia. The carcinomas must have been in existence for some months. The tongue presented almost the appearance of a geographical tongue (or scrotal tongue), being fissured, white and glistening, with areas of epithelial hypertrophy or leukoplakia and in the center, toward the tip, two distinct nodules which showed black in the photograph from their beginning excoriation.

Case 2 (Fig. 22).—Carcinoma of the Tongue.—The right side of the tongue presented a very large cauliflower lesion of several years’ duration. The right half of the tongue, all of the right cervical glands, and both submaxillary glands were removed by operative measures and radium was applied. The patient recovered from the operation, healing was uneventful, and he passed from observation.

Lingua Geographica (Fig. 23)

This case was rather interesting and illustrates what trouble such patients can get one into when they are so unfortunate as to meet with careless and inaccurate serologists. This girl had a fine position when some one noticed her peculiar tongue and immediately told her that it must be syphilitic. She was referred by some physician to a serologist who returned a 4+ Wassermann reaction. Through various unfortunate coincidences that occurred at this time the girl lost her position and also her home, and was brought to the clinic by a social worker.

Fig. 24.—Benign plaques of the tongue.
Two other serologists who were thoroughly tried and reliable returned a negative Wassermann report on repeated examinations. To any syphilographer the tongue would immediately be classified as a geographical tongue.

**Benign Plaques of the Tongue (Fig. 24)**

This patient presented grotesque plaques which appeared and disappeared at irregular intervals, and which began in early childhood. The process began as a denudation of the epithelium with a raised white border, beginning at the tip of the tongue and gradually sweeping backward to about the middle, where it stopped; it then began again at the tip. The time for this excursion is from ten to fourteen days. Her Wassermann reaction was negative and the potassium hydroxid preparations were also negative.

Every conceivable diagnostic method was employed and nothing abnormal was found. The girl was in unusually good physical condition and a roentgen ray examination of the teeth revealed no pathology. Treatment had no effect whatever on the excursions of the plaques, although both local and internal remedies were tried.
VI.—"BURNING TONGUE" *

M. F. ENGMAN, M.D.

ST. LOUIS

For some time I have been noticing a subjective condition which I have called "burning tongue," because a burning sensation is the principal sensation of which the patient complains.

Our present notes include eleven cases, nine of which were females and two males. The ages of these patients ranged from 35, the youngest, to 65, the oldest. None of them has shown any lesions of the tongue except enlarged papillae from constant feeling for the sensation against the teeth, and all of them have appeared in an almost terror-stricken condition for fear of carcinoma of the tongue.

REPORT OF CASE

History.—This is a typical case: A young woman, aged 35, living in Texas, noticed one day while riding on an interurban car, a peculiar burning or scalding sensation on the anterior portion of the tongue. She thought that she had probably unconsciously taken something too hot but did not at the time remember having burned her tongue in this way. It worried her so much that she consulted her physician, without benefit. Her mind at once centered itself on the fear of cancer and the possibility that this burning sensation might be a forerunner of malignancy.

Her physician assured her that there was certainly no growth on the tongue, but she was not satisfied and sought consultation and consolation in various large cities.

I saw her in May, 1919. She was a well nourished woman, apparently in good health, but bore an anxious expression. She told me her story, which at once classified her condition. Examination of the tongue disclosed no objective signs whatsoever. She was perfectly normal in every way. I told her of my experience with such cases and assured her, of course, that there was no need to fear cancer. However, I do not believe my assurance or the assurance of any one else would obliterate from her mind the possibility of future carcinoma of the tongue.

The other ten cases have substantially the same history as the foregoing, with possibly a few variations. Sometimes the condition is limited to the tongue and the central portion of the lower lip. The sensation is one of burning and hyperesthesia on touching the tongue with a pin or some testing instrument. There are, as I remarked

* Studies, reports and observations from the dermatological departments of the Barnard Free Skin and Cancer Hospital and the School of Medicine, Washington University, St. Louis, Mo., U. S. A., service of Drs. M. F. Engman and W. H. Mook
before, no objective symptoms. In several cases, however, local changes had been produced by painting the tongue with various reducing agents, such as silver nitrate, chromate of potash, and such applications as are usually used in the mouth.

The sensation of burning is usually confined to the anterior half of the tongue, being more severe near the tip, and seems to be more or less constant. The patients frequently forget it for a while; but the continued subjective irritation recurs, at some times worse than at others, and reduces the patient to the depths of despondency.

TREATMENT

My course of procedure in the treatment of such cases has been to be frank with them by stating that several such instances have been observed, and that the condition is no doubt due to a subconscious fixing of the mind on the anterior portion of the tongue, suggested by some instance which they have not consciously observed—possibly a remark from some one as to cancer of the tongue, or hearing or reading of such cases. It is somewhat similar to the "idée fixée" of French writers. Whether this is the true explanation of this phenomenon I am in doubt, however, for in reading an article lately by Dr. Greenfield Sluder, I was struck by a remark of his to the effect that peculiar sensations in the anterior portion of the tongue may be caused by inflammation of the lingual tonsil on either side. To quote from his article:

"As a factor in painful tongue, lingual tonsillitis has seemed to me to play a causative part. This distressing condition is described by Sir Henry Butlin as glossodynia, and he calls attention to the fact that the papilla at the junction of the palatoglossal fold with the tongue is very frequently inflamed in these cases. It seemed to be a part of the syndrome. No explanation for this can be offered at present. Many times have I seen this papilla involved, with pain in the tip of the tongue as a part of a lingual tonsillitis, and remain so many months after the attack in the tonsil has disappeared. The lymphoid tissue of the tonsil often extends to this point. Recently I saw these papillae take part in the reaction from a galvanocautery destruction of the mass at the lowermost part of the lymphoid tissue at the base of the tongue. I cm. to each side of the middle line."

That this association is quite probably an etiologic factor is further strengthened by the fact that lingual tonsillitis is often overlooked unless an examination be made with the laryngeal mirror.

Since reading the article cited above, I have not had an opportunity to observe one of these cases, but Dr. Sluder's observation may be an explanation of the cause.

SYMPHILIS OF THE LIVER

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INTRODUCTION

At the present day, syphilis of the liver may be said to be one of the most frequent of syphilitic visceropathies, at least so far as our present clinical and pathologic knowledge goes. McCrae is authority for the statement that he regards tertiary syphilis of the liver fully as common as tertiary syphilis of the nervous system. While this statement does not accord with the universal experience of other observers, the occurrence of syphilis of the liver is undoubtedly far more frequent than is generally supposed. When one considers that many cases of syphilis of the liver do not give rise to clinical symptoms and are demonstrated only at necropsy from the presence of old cicatrices, it becomes more evident that the unreported cases are probably greater in number than those in which postmortem and clinical findings are present. In this connection McCrae's figures are interesting. In an analysis of over 27,000 general medical cases, he found tertiary syphilis of the liver in fifty-six, or about 0.2 per cent. In 3,300 postmortem examinations, forty-six had well marked syphilis of the liver, or about 1.5 per cent. This great discrepancy between the postmortem findings and the clinical findings suggests that a large number of cases of syphilis of the liver do not present clinical findings. Considering the great frequency of fetal and congenital syphilis of the liver and the undoubted predilection of liver tissue for spirochetal invasion, the probable predilection of this organ is not surprising.

A great variety of clinical and pathologic forms of hepatic syphilis are found, and these will be considered under the heads of early involvement and late involvement.

EARLY HEPATIC SYMPHILIS

In the so-called secondary period, or in the first months of the infection, involvement of the liver is encountered occasionally in the form of jaundice, of which two distinct forms are noted: (1) mild icterus, and (2) grave icterus.

MILD ICTERUS

Occurrence.—The occurrence of jaundice in association with syphilis is said to have been noted first by Paracelsus, although a definite relationship between syphilis and icterus (jaundice) is found in the literature of a much earlier date. As a definite entity, syphilitic icterus was first carefully studied by Ricord, Gubler, and others. Although many cases have been collected from the literature as a whole, it is probably a rare complication of the early period. According to Engel Reimer, however, icterus to a certain degree occurs in 3 per cent. of all cases. It seems to me that this is a very high figure. In over 500 cases of secondary syphilis in which careful notes have been made in my clinic, icterus was found only in three, considerably less than 1 per cent.

Etiology.—The cause of icterus has been a subject of much discussion. Gubler, who was among the first to study the condition, explains the jaundice on the basis of a roseola or an exanthem of the intestine and the bile duct, the latter swelling up and so obstructing the flow of bile. Lancereaux and French authors in general explained it on the basis of swelling of the portal lymph vessels. Engel Reimer believed it to be a definite obstructive jaundice caused by a swelling of the portal lymph glands, and he was able to substantiate his view by a demonstration in three cases at necropsy. Senator holds that the jaundice is due to an inflammatory reaction of the biliary ducts. According to Neumann, all of these factors may be coincident. Mauriac believes there is an active inflammation of the liver, hyperemia and stopping up of the biliary ducts. In substantiation of this he points to the increase in the size of the liver as proof. Finger says it is the result of an intoxication due to a syphilotoxin.

Symptoms.—Women seem to be somewhat more often affected than men. The jaundice is characterized by appearing rather suddenly and usually without symptoms. The absence of gastro-intestinal symptoms is a valuable diagnostic aid in differentiating catarrhal jaundice, but as gastric symptoms not infrequently occur in early syphilis, they may also be present with syphilitic jaundice. According to Engel Reimer, the icterus occurred in over 80 per cent. of the cases before three months had elapsed after infection. The most striking feature of the jaundice is its coincidence with the exanthem, appearing most regularly with the general eruption. Other than this, I cannot

gather from the literature that there are any characteristic features. According to some authors, jaundice is not associated with clay colored stools. Others have reported a total absence of bile in the stools of their cases. According to Rolleston, it the appetite is usually well preserved, although there may be a distaste for fatty food. The spleen may be palpable, but this may have nothing to do with the liver enlargement. Swelling of the liver has been noted as a fairly uniform finding, but it may be absent. It was present in one of my cases, and absent in two.

Course.—Usually the icterus is a very transitory symptom, disappearing in a few weeks, and particularly under the influence of treatment. According to Lasch, it may run as long as three months. Sevin, however, is authority for the statement that this type of jaundice may become chronic, in which case it is usually associated with chronic interstitial hepatitis occurring as a later manifestation. An older theory that the icterus was caused by the administration of mercury is without foundation. In but four of the forty-nine cases collected by Lasch had mercury been given before the icterus appeared, and the icterus disappears very rapidly under the influence of mercurialization.

Diagnosis.—The brisk appearance of the jaundice, particularly coincident with the outbreak of the eruption; the absence of other causes, particularly the absence of gastro-intestinal symptoms, and the prompt amelioration under specific treatment, are the important differentiating points. Simple catarrhal jaundice is the most difficult condition to exclude.

Treatment.—The treatment is that for general syphilis.

GRAVE ICTERUS (ICTERUS GRAVIS)

Incidence.—This is far more rare than the benign form, but may supervene on apparently mild cases of jaundice. All of the cases of grave icterus which have been studied have contributed to a new cause for acute yellow atrophy. According to Tierfelder, of eighty-one cases of acute yellow atrophy, eight had recent or old syphilis. Richter has collected thirty-nine cases of grave icterus and acute

yellow atrophy from the literature and added two of his own. All of these cases were associated with florid syphilis. The subject of grave icterus and its relation to acute yellow atrophy has been extensively reviewed in a monograph from this clinic by Wile and Karshner. The majority of the patients are women. Many of the cases have been reported under the name of icterus syphiliticus praecox. The largest number reported from a single clinic are the three cases of Richter. I have observed one case of icterus gravis in which symptoms of acute yellow atrophy were present. This case, however, recovered, as have others in the literature when the diagnosis has been made sufficiently early and treatment instituted.

Etiology.—The etiology of grave icterus has been carefully studied by Buschke and Zernik. According to these authors, a syphilotoxic parenchymatous hepatitis gives rise to the symptoms, and not an obstructive jaundice. This view is generally conceded at the present time to be correct. Acute yellow atrophy, according to Michael, occurs in 10 per cent. of the cases of early syphilitic icterus. Pregnancy may play a rôle, as in one case of Engel Reimer and Pospelow. One case reported by Erickson followed abortion.

Symptoms.—The cases differ in no way in their symptomatology and course from those of acute yellow atrophy from other causes. By far the largest number of cases have occurred in women. The jaundice usually occurs at some time during the first year, frequently, as in the mild jaundice, coincident with the exanthem. Michael asserts that it may even occur before the chancre appears, in the period of primary incubation. When unrecognized, cases run a fairly rapid course. The liver is enlarged, somewhat tender; then rapidly becomes smaller. There are marked gastro-intestinal symptoms, and death usually ensues shortly after the onset of cerebral symptoms, which, as in other cases of acute yellow atrophy, indicate an early termination. The icterus at the beginning is usually mild, but becomes very intense with the progress of the disease. Crystals of leucin and trypsin indicating destruction of liver tissue are a uniform finding in the urine.

Course.—When unrecognized, the cases are almost invariably fatal, the course being somewhat longer than in acute yellow atrophy from other causes. According to Richter, the average for all cases was

eighty-four days. When recognized and treated sufficiently early, the course is arrested. When treated during the later stages, the inevitable termination is delayed.

Prognosis.—The prognosis is extremely bad, but somewhat better than in cases of acute yellow atrophy from other causes. Several cases have been reported in which recovery occurred even after there was considerable evidence of destruction of liver tissue. Buschke and Zernik, Senator and Umber have all reported cases of recovery in which the diagnosis of beginning acute yellow atrophy could be made with certainty by the initial increase in size of the liver, followed by its rapid decrease, together with the finding of leucin and tyrosin crystals in the urine. A patient observed in my own clinic recovered promptly under intensive treatment.

Treatment.—The treatment is that of general syphilis.

According to Rolleston, a third form of early syphilitic involvement is occasionally found analogous to the diffuse pericellular cirrhosis of congenital syphilis. He cites a case reported by Serhemm and Weber in substantiation of this. He speaks of it as a temporary condition which is apt to be unrecognized unless found accidentally at necropsy in patients suffering from secondary syphilis.

Late Hepatic Syphilis

The late manifestations of syphilis of the liver are far more common than those of the earlier period. According to McCrae, the clinical forms are divided into syphilitic cirrhosis, gummas, cicatrices and amyloid changes. Chronic passive congestion secondary to syphilis of other viscera may also be added. Of forty-six cases of late syphilis, McCrae found cirrhosis in twenty-three, gummas in twenty-one, cicatrices in nineteen, combined gumma and cirrhosis in eight, combined gumma and cicatrices in five, and amyloid changes in four. From this analysis and from the experience of others, it appears that syphilitic cirrhosis is by far the more common form of late syphilitic hepatitis. During the past few years I have had an unusual number of cases of late hepatic syphilis under my observation at the University Hospital. Indeed, it is seldom that I have not at least two or three cases under observation at one time. I am impressed with the fact that the various forms that are described below are not so much different pathologic and clinical entities as different stages of the same picture. Thus, for example, I have not infrequently seen gummatous hepatitis pass over into the interstitial form, and further have occasionally

noted the clinical picture of syphilitic cirrhosis in which at the postmortem, besides a syphilitic cirrhosis, extensive gummatous lesions are present.

**DIFFUSE INTERSTITIAL HEPATITIS OR SYPHILITIC CIRRHOSIS**

*Incidence.*—This is by far the most common form of syphilitic hepatitis, although not the easiest to recognize clinically. It is not unlikely that many cases of supposedly hepatic cirrhosis from other causes are due to syphilis. I have occasionally found hepatic cirrhosis unassociated with symptoms occurring in tabetics. The disease is probably more frequently found in men than in women, and McCrae asserts that alcohol is probably an important factor. In his seventy cases only five did not use alcohol freely. In sixteen cases that have come under my observation during the last five years, alcohol has been a negligible factor.

*Symptoms.*—The onset is usually insidious, swelling of the abdomen due to ascites being the most prominent symptom. In many cases the ascites disappears and reappears with periods of well-being intervening. McCrae regards this as a most important diagnostic point, not occurring in other diseases of the liver. Later in the course of the disease there is swelling of the ankles and a general anasarca condition. Other authors, notably Neumann, state that ascites occurs only late in the course of the disease. In a case under my care at the present time the ascites has been so great as to require twenty-five tapings within a period of five months, the total amount of fluid removed being over 150 liters. According to Neumann, its occurrence late is an important diagnostic point between syphilitic and nonsyphilitic interstitial hepatitis. To sum up: The ascites may occur early and be a prominent symptom; in other cases, it may not supervene until the later stages of the disease.

*Pain.*—This is a prominent symptom, being typical of liver pain, radiating to the shoulder. In some cases, as in that reported by Gunther, the pain may simulate that of cholelithiasis. The pain is probably explained in the largest number of cases by the associated perihepatitis. That it may be wholly absent is shown by the large number of cases of syphilitic cirrhosis at postmortem in which clinical symptoms have been wholly absent.

*Jaundice.*—Jaundice is spoken of by Rolleston as occurring rarely, but McCrae states that it occurred in half of the total number of his cases. The urine is usually dark in the later stages; it is distinctly icteric and later contains albumin from the associated nephritis. Jaun--

dice is probably an important differential point, as its occurrence in other forms of cirrhosis is far more common than in the syphilitic form.

Vomiting, hematemesis and hemorrhage from the bowel associated with varico-ities of the gastro-intestinal system are not infrequent.

Stools.—The stools as a rule are not clay colored. Occasionally they are mixed with blood and pus from associated ulcers of the rectum or colon secondary to amyloid change.

Fever.—Fever was present in all but eight of McCrae’s seventy cases. The fever in some cases may be the predominant symptom as in a case of Hirschberg and Raichline, 14 in which the fever resembled that of typhoid.

Authors disagree as to the condition of the liver. Neumann states that patients are rarely examined during the period of enlargement. According to him, the liver is usually smaller on percussion or normal in size. In about half of the cases examined in my series the liver was extensively enlarged at the first examination. The edge of the liver is thin, sharp, and the irregularities on the surface are, according to Bamberger, not easily palpable through the abdominal wall, as they are too small and not prominent enough.

Enlargement of the spleen is one of the earliest and most constant findings of syphilitic interstitial cirrhosis. It is usually caused by chronic passive congestion or is associated with amyloid change. In practically all cases under by observation it has been a uniform finding. The increase in size is great and the consistency of the spleen is firm. If the diagnosis of amyloid spleen can be made it is extremely helpful in establishing the cirrhosis as syphilitic in origin. Cachexia and great loss of weight occur sooner or later.

An unusual syndrome of interstitial hepatitis is that simulating Banti’s disease. Osler 15 has reported three cases of syphilitic cirrhosis in which the splenic symptoms overshadowed and obscured the hepatic picture. There was marked anemia and frequent hematemesis. In only one of these cases, however, was the syphilis acquired. A similar report is recorded by Ridder, 16 whose patient, a woman, was sick for five years with progressive weakness, and with the typical picture of Banti’s disease, including the blood picture of splenic anemia. The patient is said to have improved markedly under mercury.

Course.—The course of the disease is essentially chronic. In not a few cases, however, pneumonia, fatal hemorrhage and rapid emaciation bring about a rapid exodus. When intercurrent affection does not occur the cases may progress for several years. Occasionally periods of improvement occur, spontaneous or under treatment, with reduction in the extent of the ascites and the amelioration of other symptoms. Death usually results from exhaustion and emaciation after repeated attacks.

Diagnosis.—In the absence of other syphilitic findings, the differential diagnosis is extremely difficult. If other syphilitic symptoms are present, the small size of the liver, the absence of jaundice and the absence of gastro-intestinal symptoms are strongly suggestive of syphilis. In cases in which the surface of the liver is markedly irregular, it is sometimes difficult to differentiate carcinoma. Ascites may be present in both carcinoma and syphilis and thus complicate the diagnosis. Cachexia is present in both. Rapid increase in size of the individual nodes on the surface of the liver more particularly indicates carcinoma. It must be said, however, that in many cases the differential diagnosis can only be made after a long period of observation. Before the present day of laboratory aid in the diagnosis of syphilis, the differential diagnosis was far more difficult. A positive Wassermann test, of course, with due consideration to its limitations, and the occasional occurrence of syphilis and carcinoma together, furnishes one of the most valuable aids in the differential diagnosis. The absence of jaundice, the appearance of ascites late, the relative small size of the liver, serve to differentiate it from other forms of cirrhosis.

Prognosis.—The prognosis is bad, being much worse in this form than in other forms of syphilitic liver disease. Cases of recovery, however, are recorded in which the diagnosis has been made extremely early. In general, the prognosis is no worse than that of nonsyphilitic interstitial hepatitis. Neumann states that it is better. Even when the disease has progressed and there are associated amyloid changes, recovery is occasionally recorded. In Chvostek's nineteen cases, recovery took place in but two. I believe that a particular paradox exists in the treatment of these cases in that as the syphilis becomes better, the symptoms are likely to become worse. This is readily understandable when one considers that in the resolution of the process a further contraction and cirrhosis of the liver take place with a resultant greater tendency to ascites. In a few cases under my own observation a general improvement of the patient's physical condition, undoubtedly due to the effect of the resolution of other syphilitic foci, has been coincident with a marked increase in ascitis and a diminution in the size of the liver. For this reason, at the outset a prognosis is
difficult and undoubtedly depends largely on the amount of uninvolved liver tissue and the location of such tissue with reference to further scar formation. In these days when the diagnosis of syphilis is probably made much earlier than previously, the prognosis in this type of case may become brighter by early recognition and prompt treatment.

_Treatment._—The treatment is that of general syphilis.

**GUMMAS OF THE LIVER**

_Incidence._—Next to interstitial hepatitis, the gummatous form is the most frequent type of syphilis of the liver. According to Neumann, it is relatively more common than any other, but according to the experience of other authors, the interstitial form is the more common. The gummas occur either in the form of miliary nodules or oftener, as larger tumors of the surface which by their absorption result in distortion and changes in the configuration of the organ. Gummas occur not only in this form, but may also be present in the interstitial hepatitis, thus giving rise to a mixed anatomic form. The absorption of relatively large gummas may take place spontaneously causing deep indentations and cicatrices on the surface of the liver. These cicatrices may be so deep as to give rise to lobulation. In many cases of multiple gummas of the liver the organ presents itself as a mass of knobs and deep furrows. The gummas appear in both lobes, on the anterior surface more commonly than on the posterior, and somewhat more commonly on the left than on the right lobe. The lesions may be single, or as in one case of Tierfelder's, there may be as many as fifty. The variation in size is also great. The lesions may be as small as a pinhead, and may be as large as hen's eggs. The liver itself may be considerably larger than normal, or late in the course of the disease, it is apt to be diminished in volume. When amyloid change is associated, the organ is increased in size. In those cases in which there is a marked degree of interstitial hepatitis, the general size and weight of the organ are reduced.

_Symptoms._—That gummatous hepatitis may occur without symptoms is shown by the occasional accidental finding at necropsy in cases in which during life there were no symptoms referable to hepatic disease. As a rule, however, the symptoms are prominent.

_Pain._—Pain occurs almost uniformly and is an extremely confusing symptom inasmuch as it is frequently identical with the pain of cholelithiasis and cholecystitis. It is typically hepatic pain with radiation to the right shoulder, occasionally sharp and paroxysmal in character, at other times simulating the pain of cholecystitis. In other cases the pain may be that of high abdominal tumor, being in the left
hypochondrium and not radiating to the shoulder. In still other cases actual pain is not present, but patients complain of a feeling of pressure and weight.

**Jaundice.**—Jaundice may or may not be present. It is less common probably than pain, and when present is never an intense icterus. Usually it is of short duration. When present, it may be due to the interstitial hepatitis, to the concurrent perihepatitis, or to compression of the larger biliary ducts by gummatous infiltrates. When the icterus occurs as a prominent feature, it is probably due to an associated interstitial hepatitis.

**Ascites.**—The occurrence of ascites in this form of liver disease is not so frequent as in the interstitial form. According to Bamberger, it is rare. Mauriac is of the same opinion, whereas Julian, Tierfelder and McCrae give it as a frequent symptom. From an analysis of the cases in the literature, it would seem that ascites is uncommon in uncomplicated gummatous hepatitis. In those cases, however, in which there is an associated nephritis, interstitial hepatitis or splenic tumor with involvement of the peritoneum, ascites is common. The ascites is apt to appear with the decrease in size of the liver through a constriction of the larger portal veins by the cicatization of involuted lesions.

**Fever.**—Fever occurs commonly in all types of liver disease and is therefore not infrequently found with gummas. There is nothing characteristic about the course of the temperature. As a rule, it is not high, and is continuous during the period at which actual symptoms are present. According to Klemperer, the fever is due to the ulceration of gummas. Huber, who has reported a case of gummatous hepatitis in which fever was a prominent symptom, believes it is due to toxins of the spirochete. Inasmuch as there is almost invariably an associated low grade peritonitis, it seems not unlikely that the fever might arise from such involvement.

**Splenic Tumor.**—Enlargement of the spleen is fairly common. It may be due to an interstitial splenitis, to gummatous involvement or to amyloid degeneration. It is far more common in association with interstitial hepatitis than with the gummatous form.

**Gastro-Intestinal Symptoms.**—According to Neumann, gastrointestinal symptoms are a constant finding. Gastric digestion is delayed. There may be hemorrhages from the bowel and stomach. These, however, usually occur only in cases of amyloid disease or when the hepatic circulation has been extensively constricted. In many of the cases gummas of the liver are associated with gummatous findings in other organs, thus giving rise to a most complicated picture. An

occasional finding of gummas in the liver in tabetics is reported by Jervis\textsuperscript{18} and by Plate.\textsuperscript{19}

Among more unusual symptoms may be noted occasionally cases simulating cyst of the liver, as in a case of Lejars,\textsuperscript{20} in which the picture was one of typical hydatid cyst.

Cachexia, loss of weight and anemia are progressive, and in late cases the clinical picture may resemble that of carcinoma of the liver. To summarize: The symptomatology of hepatic gumma is varied and is modified by the occurrence of syphilis in the neighboring viscera, and by such complications as nephritis, peritonitis and splenic enlargement. The most prominent and least variable symptom is the nodular enlargement of the liver.

Course.—The course varies from months to years, resulting occasionally in spontaneous cure, in other cases in satisfactory cure under specific treatment; in still others in progressive cachexia and death from complications or from exhaustion. Recurrences may occur occasionally.

Differential Diagnosis.—In typical cases the diagnosis is not difficult. The palpation of the discrete rounded nodules on the surface of the liver, the other associated syphilitic findings and the positive complement fixation test render the diagnosis relatively easy. Obscure cases, however, are frequently encountered in which the diagnosis is more difficult. It is particularly necessary to differentiate carcinoma of the liver. In this condition the more rapid increase in the size of the nodules during a short period of observation constitutes an important differential diagnostic point. Ascites and jaundice are perhaps more common in carcinoma; enlargement of the spleen is a more common finding in gummas. Neumann gives as an important diagnostic point, the high grade of deformity of the liver and its decrease in volume. The decrease in volume in association with large protuberances, according to him, indicates gumma. The fixation of the liver by adhesions during respiration occurs more frequently in gumma than in carcinoma.

Prognosis.—The prognosis varies according to the time at which the diagnosis is made. In early cases in which a diagnosis has been promptly made and specific therapy instituted, the prognosis may be said to be good, the lesions and the symptoms yielding readily to specific therapy. In the later cases in which cachexia has occurred.


or in which there are amyloid changes, or in which extensive distention and distortion of the liver has occurred, particularly in those cases in which ascites has been a prominent feature for a long time, the prognosis is bad.

Treatment. The treatment is that of general syphilis.\textsuperscript{21}

21. In addition to the footnotes already given, the following will be found of interest:

ULCERATING GRANULOMA OF THE PUDENDA

A REVIEW OF THE LITERATURE WITH A BIBLIOGRAPHY AND SOME OBSERVATIONS OF THE DISEASE AS SEEN IN PORTO RICO

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INTRODUCTION

Ulcerating granuloma of the pudenda is a skin and mucous membrane disease found in the tropics. It is an infectious, chronic, indurated, cicatrizing growth on or near the genitals of both male and female, with no tendency to glandular involvement or serious impairment of the general health.

The increasing migrations between continental United States and Porto Rico, with the possibility of transferring the infection, is deemed to be of sufficient importance to warrant the reporting of the first cases diagnosed on our insular possession.

The available literature has been studied, and only one reference has been found to the disease in any part of the United States or its tropical dependencies. Lieutenant Pederson, U. S. Navy, had three cases in St. Thomas, V. I. (personal communication), and Dr. Gehring had one in Panama (personal communication). From our island neighbor, Cuba, report of two cases has been made by Pardo of Havana.

Ulcerating granuloma of the pudenda is briefly mentioned in many of the modern dermatologic textbooks. The volumes on tropical medicine and pathology in English, French, Spanish and Portuguese at our disposal give brief space to the disease, and the journals of late years have original articles and abstracts of reports.

Synonyms.—Ulcerating granuloma of the pudenda is the name most often applied to the disease. This name implies the pathologic process of granuloma with subsequent ulceration. A name which emphasizes another pathologic process is scleroticizing or sclerosing granuloma of the pudenda. Serpiginous ulcerations of the genitalia was the term applied by McLeod. Granuloma inguinale tropicum, granuloma venerum, groin ulceration, and chronic venereal sores have all been used. Da Matta proposes the term "granulomatoses" for this group of cases.
History.—Ulcerating granuloma of the pudenda was buried among the nondescript "tropical ulcers" until recognized as a clinical entity by Conyers and Daniels in 1896. They observed the disease in British Guiana. Since that time, cases have been reported and studies made on the etiology, pathology and treatment of the disease.

Geographical Distribution.—British Guiana, Dutch Guiana, Brazil, Uruguay, Argentina and the West Indies have the disease. The same or a similar disease exists in the Fiji Islands, India, East Indies, Northern Australia, the west coast of Africa and South China. Rarely, has an identical disease been encountered in Europe. Grindon reported three cases in the United States. In our own field of study, Porto Rico, we have seen four cases. It seems probable that many more cases are to be encountered on the island.

Age of Patients.—The majority of the patients are in the period of sexual maturity. Rarely has the disease been acquired by children, or by those over 45 years of age.

Sex Affected.—Manson states that males are less frequently affected than females.

Color.—A theory as to the predisposition on the part of the colored races has been advanced; but reports of the disease among whites are sufficiently common to warrant the statement that race plays no essential part in the etiology of the disease.

Histopathology

The histopathologic study made by Galloway on material furnished by Daniels has been most often quoted and paraphrased. According to the researches of this author:

The microscopic changes commence at some distance from the points where the disease becomes visible to the naked eye. The lesion consists of a round cell infiltration appearing in the upper regions of the corium which extends upward into the papillae and also to a variable extent downward into the subcutaneous tissue. The main mass of the exudation, however, lies in the upper layer of the cutis, and in the papillae themselves. As the amount of this exudation increases, the papillae increase in size, both in length and breadth, and the interpapillary processes of the epidermis become elongated, so that they may attain to eight or ten times the usual length. As the result of these changes, a very complicated arrangement of columns of epithelial cells and dense exudation of rounded cells of mesoblastic origin forms the characteristic appearance of the growth in its most active state.

The connective tissue of the corium disappears under the influence of the infiltration, its fibrils become swollen, refuse to take the ordinary connective tissue pigments and at length vanish. As the connective tissue is destroyed its place is taken by the new infiltration, so that dense masses of the new growth underlie the elongated interpapillary processes of epithelium. In these
masses only a few irregular trabeculae of connective tissue can be distinguished, and these are frequently in a degenerate condition.

The elastic tissue may also be observed to undergo changes of a distinctive character. The regular arrangement of the fibers, which can readily be seen where the skin is still normal, becomes disturbed on the advance of the infiltration. The individual fibers become swollen and at length broken up into short lengths. As the dense areas of infiltration are reached, the main elastic fibers in the corium are so altered in their arrangement that, instead of coursing in a direction more or less parallel with the surface of the skin, fragments of them may be seen in connective tissue trabeculae lying in all directions, even at right angles to the surface of the cutis. In the infiltration itself all traces of elastic tissue disappear. The elastic fibers of the papillae and in other parts are destroyed in a similar manner.

Fig. 1 (Case 1). Pea-sized papillomas between commissure of the vulva, including perineal space, and circumscribing the anus. The disease process passed into the vagina and into the rectum.

It is noteworthy that no tendency to caseation or to suppuration is observed in the masses of infiltration. In the older parts of the growth, the newly formed cells become swollen, disappear and the situation of the infiltration becomes occupied by newly formed bands of connective tissue, distinguished from those originally existing by their straight instead of wavy course and by the density of their arrangement. Shrinking takes place in the size of the tumor, and firm scar tissue is formed.

As the infiltration appears in the papillae the cells of the rete malpighii in the interpapillary processes of the epithelium become swollen, their protoplasm becomes more hyaline in appearance and division of the nuclei and cells appears to take place, although mitoses are uncommon, so as to permit the
necessary increase of the interpapillary processes. The increase of the infiltration raises the corium in the form of a small tumor, and the epithelium becomes stretched over it. This additional alteration conduces still more to disturbance of the epithelial cells. There is interference with the regular columnar arrangement of the lowest layer of cells in the stratum mucosum. The cells are elongated and are less distinguishable from the overlying cells of the prickle layers. Leukocytes make their way into the altered epithelium from the underlying infiltration and wander through the lymph channels of the epithelium, which becomes peculiarly obvious. As the summit of the little tumors is approached, the epithelium becomes more and more infiltrated with leukocytes, and at the most prominent part, a thin crust of leukocytes, epithelial and leukocytic débris may be frequently distinguished. The epithelial layers below are full of leukocytes and the lymph spaces contain, besides leukocytes of various shapes, the relics of leukocytes and possibly of epithelial cells, free from chromatin granules.

In spite of the stretching and thinning of the epithelium and its infiltration with the leukocytes, complete disappearance of the suprapapillary epidermis appears to be uncommon; but in some specimens a deep ulcer is seen to have formed with complete destruction of the epithelium and the appearance of dense scar tissue. This characteristic, it will be noticed, corresponds to one of the important clinical features of the case.

The stratum granulosum undergoes great alteration. In the neighboring normal skin it is readily observed, as is also the overlying stratum corneum. As the area of disease is reached, the cells fail to develop the granules of keratohyaline regularly, and at a point about half way toward the summit of the tumor the cells of the stratum granulosum have quite vanished. A similar fate attends the cells of the stratum corneum. The epithelium overlying the upper parts of the tumor, therefore, is formed of cells of very nearly the same appearance, without pigment and without the normal granules of keratohyaline and without undergoing the regular formation of horny material. The upper cells differ only in shape, and very little in staining reactions from the epithelial cells immediately in contact with the transformed corium.

Conyers and Daniels give a detailed account of the microscopic structure of either the smallest nodules or larger masses as showing:

The mass of nodules are composed of round cells, with a large (but usually badly staining) nucleus, contained in a delicate reticulum of fibrous tissue. This mass is covered by epithelium in its greater extent and in the older and larger nodules merges gradually into a subjacent dense fibrous stroma in which small masses of similar rounded cells are embedded. The growths are very vascular and the capillaries are much dilated, but there are no hemorrhages. There is no sign of suppuration or caseation, and no giant cells are found in any of the sections. The overlying epithelium has undergone certain modifications; it is usually intact; or cracked and, occasionally over small areas, absent or ill formed, and the cells of the rete malpighii are ill defined and swollen. None of the pigment so characteristic of the colored race is found in the deeper layers. In many specimens there is a proliferation of the interpapillary epithelium, in some, sufficient for columns of epithelial cells to appear to descend into the round celled growth. In others, on the other hand, the papillae have almost disappeared from a more wide-
spread proliferation of the epithelium. The hair follicles in many cases share the epidermic thickening, and the hairs grow strongly and are not changed in color. In a section of a small nodule, the round cell mass will be found to be roughly wedge-shaped, the base of the wedge being toward the skin, the growth ascending with the vessels into the papillae.

ETIOLOGY

There has been some difference of opinion as to the bacterial agent of ulcerating granuloma. Different investigators have described dif-

Fig. 2 (Case 2).—The condylomatous type of the disease, covered by slough. Individual papules, varying in size up to that of an almond, were present.

ferent organisms, and there has been confirmatory evidence accumu-
lating for the two main contenders, namely, Wise, who advanced the theory of spirochetal origin, and Donovan, who advanced the theory of Calimato bacterium granulomatis origin.

Wise reported in 1906 and 1907, that he had found in the eruption spiro-
ches resembling S. refringens and S. pallida but they were not exactly sim-
lar. Cleveland confirmed Wise's observations on the spirochete and has called
it *S. aboriginalis*. MacLennan found the spirochete of ulcerating granuloma more delicate, more closely waved, very much longer, and more difficult to stain than *S. pallida*.

Donovan has described small rod or coccus-like bodies, two microns by one micron, which lie singly or in groups in mononuclear cells obtained by scraping the sores. His results have been confirmed and enlarged by Siebert and later, by Flu. De Beaurefaire Araga and Vianna have cultivated the capsulated coccus-like bodies described by the above authorities. Cultivation has been obtained also by Martini.

Manson calls the parasite a "gigantic short bacillus with rounded ends occurring in large mononuclear cells and in great profusion. The parasites are sometimes scattered irregularly through the protoplasm of the affected cells, more often they are arranged in little round clusters of eight or ten. On deep staining, something like an elongated nucleus can be made out." According to Manson, the position this organism occupies and its peculiar characteristics are highly suggestive of its being the cause of the disease.

*Calimatobacterium granulomatis*, according to de Souza Araujo, when stained by the method of Gram, whether in smears, in section or from culture, takes the stain; but the capsule remains unstained. The method of choice for the organism is that of Giemsa, by which there is presented a characteristic appearance. The body of the organism takes an intense violet color, and the capsule appears pink, sometimes dark red, with small clear spaces. When deeply stained, extracellular forms at times present the appearance of cocci, stained dark violet and surrounded by a capsule. This form is about 0.2 or 0.3 microns and with its capsule about 1 or 1.5 microns. In general, the capsule is oval and the microbe appears elongated like a bacillus or diplococcus in the stage of division. In such cases, the organism may be from 0.5 to 1 micron and with its capsule from 2 to 2.5 microns. In the last stage of division, the germ separates in the capsule and lies at each end like a coccus.

Pardo, in his report of cases, says: "The specific germ is a short capsulated bacillus disposed in chains; it is easily distinguished on account of its capsule, the best stain is Giemsa. Pure cultures were not obtained, although the micro-organism was still present in agar mediums with many other bacteria."

Steele, in his study of the etiologic factor, notes: "Spirilla of a somewhat large size, resembling *Spirillum refringens*, were occasionally seen. Sometimes with them, sometimes in their absence, spirochetes identical in their morphologic characteristics with *S. pallida* were found. As this method (scraping) might be open to the objection that these spirochetes might be extraneous agents, removal of the ulcers and smears made from the deeper tissues occasionally showed the presence of these spirochetes; in what percentage of cases they will ultimately appear as constant factors, it is too soon to state. . . . Again another parasite was sometimes in evidence, usually in the fungating, granulating variety of the infection, and often from the enlarged inguinal glands when such are present. Generally seen in large, swollen mononuclear cells, and often in considerable numbers, they possess varying appearances: if for any reason they appear crowded together the bodies resemble enlarged cocci-bacilli, sometimes kidney shaped, not unlike huge gonococci; but when spread out, or in 'spread out' mononuclear cells, there is the appearance of a differentiation into a nucleus, rod-shaped, and a surrounding protoplasm."
Grindon, among the conclusions arrived at in the study of three cases in the United States says: "The peculiar bodies described by Donovan and Carter are not constantly present in this disease. . . . Spirochetes are not constantly present."

**REPRODUCTION OF THE DISEASE IN ANIMALS**

Conyers and Daniels' work with guinea-pigs gave negative results. De Beaurefaire Arago and Vianna successfully inoculated cultures in the lower animals, but did not reproduce the disease, as the dogs, guinea-pigs and rats inoculated died within forty-eight hours. Steele treated four monkeys with pieces of tissue removed from various cases by scarification over the eyebrows and genitals, and in three animals more or less typical lesions appeared over the eyebrows. The three monkeys died within several months.

**ASSOCIATED WITH OTHER DISEASES**

All observers are agreed that complications with syphilis occur occasionally. Most authors are positive that ulcerating granuloma is not syphilis. Maitland's observations point to the probability that venereal ulcers may form the point of entrance for the disease. In cases showing marked elephantiasis, the filarial organism has been suspected but it has not been found constantly.
CONTAGIOUSNESS

Ulcerating granuloma of the pudenda is contagious, but only mildly so. The seat of the ailment on the genitals and the frequency of primary affection of the penis in the male and the vagina in the female combine to indicate a disease of venereal character. Rarely have extragenital cases been reported.

INCUBATION

Low mentions the case of a white man in whom a small sore appeared on the glans penis two days after cohabitation with a black woman. Maitland's case gave a four-day incubation period. De Beaurefaire Arago and Vianno report a case of eight days' incubation.

CLINICAL APPEARANCE

The disease presents itself as a light red, shiny mass of granulation tissue that bleeds easily; the masses are of various sizes, exude a thin, light sanguineous fluid and exhale a fetid odor. The granulations are largest at the margins, the centers appearing rather sunken. The granulations also appear to be strongly developed in the hairy parts of the body. The secretion differs: sometimes it is so great that it runs in drops; in other cases it is scanty, and the masses of granulations are covered with drying scabs. Sometimes the granulomas heal in places by shriveling up, leaving firm, raised, hairless cicatricial tissue with a thin epidermal integument, which is in parts lighter, in parts darker than the skin in the vicinity. Sometimes these cicatrices lie like islands in a mass of granulations; sometimes cicatrization occurs at one side and the disintegrating process advances on the other. In consequence also of cicatricial contraction, the contiguous skin may be drawn away.

OTHER PHYSICAL SIGNS

There is no enlargement of the draining lymph nodes. The lymph channels may, however, become blocked, and pseudo-elephantiasis of the affected penis or vulva occurs. The growth may invade the urethra in the male and the rectum or vagina in the female. Impassable strictures of the urethra may result, and incurable rectovaginal fistulas are common. The lesion is not invasive, and there are no metastases. The general health is not affected.

In cases affecting the skin or mucous membrane surfaces, there are no subjective symptoms, and the patient does not complain of any discomfort. When the disease advances by continuity or contiguity, and the pathologic process encircles the anus, or invades the urethra, vagina, or rectum, it causes the formation of a cartilaginous stricture.
Pain on defecation or urination is intense, and is complained of. The stricture may become so obstructive as to prevent the normal functioning of the part.

**Duration of the Disease**

The disease is extremely chronic. Complete spontaneous cure is rarely or never observed. The cicatricial tissue that may form soon becomes disintegrated.

**Differential Diagnosis**

To the casual observer, the disease may most often be mistaken for syphilis. It is easily distinguished from the chancre by the history of chronicity, and the absence of lymphatic enlargement. It is differentiated from condylomata lata by the granular appearance, color and ulceration. The slow advance, superficial character and vascularity tend to differentiate the gumma lesion. The serologic reaction may be of help, but will never be conclusive evidence. The inefficiency of antisyphilitic treatment will soon appraise the diagnostician of the mistake of a diagnosis of syphilis.

Yaws is distinguished by the distribution of the condition, and the lack of multiplicity of the lesion.

Tuberculosis is distinguished by the absence of the organism of Koch. The age of the patient, and the character of the lesion will readily exclude the common clinical forms of tuberculosis cutis.

Epithelioma or carcinoma, especially of an early penile lesion, would be diagnosed by the microscopic picture. Clinically, the absence of glandular enlargement and of metastases, the youth of the patient, and the absence of cachexia would exclude malignant disease.

**Prophylaxis**

The moral and economic features of the prophylaxis of granuloma pudenda are those of syphilis. Illicit intercourse is usually the mode of transmission. The fact that treatment is almost unavailing would tend to put the victim in the same class as the leper, and require for active prophylaxis the isolation of all persons affected.

**Treatment**

Antisyphilitic treatment does not affect the disease. Neither salvarsan, mercury, nor potassium iodid alleviate the condition.

The drug recommended is antimony and potassium tartrate (tartar emetic). First advocated by the Brazilians, tartar emetic has taken first place in the treatment of disease. It is used intravenously, and by oral administration.

Intravenously, it is ordinarily given in a concentration of 1:100. The solution should be prepared in distilled or redistilled water, and
The dose is 5 c.c. of the 1:100 solution, every second day. Ashford writes of increasing the dose gradually to 12 c.c., every second day.

The results with this treatment are not magical. Low gave the patient already mentioned (incubation two days) three injections of salvarsan and thirteen of mercury before giving the tartar emetic. It required 53 1/2 grains of tartar emetic to effect a complete cure. Pardo noted improvement after the fourth treatment when the ulceration at the groins began to heal, forming a white raised and retracted scar. Cicatrization then took place slowly, and after five months the patient was almost cured; only two areas remained active, one around the anus, and the other around the vaginal orifice. His patient left the hospital and passed from further observation. Ashford expects 12 per cent. of recurrences after tartar emetic cures.

The prescriptions recommended for oral administration are:

1. **R** Antimony and potassium tartrate.............. gr. iv
   Sodium bicarbonate .................................. gr. xxx
   Glycerin .................................................. 5 i
   Chloroform water ........................................ 5 i
   Water........................................................ q. s. ad. 5 iii
   M. Sig.: One to two drams in water three times a day.

2. **R** Antimony and potassium tartrate.............. gr. viii
   Phenol ...................................................... ml x
   Glycerin .................................................... 5 iii
   Distilled water............................................ 5 i
   M. Sig.: Fifteen minims every two days.

3. **R** Antimony and potassium tartrate.............. gr. i
   Sodium bicarbonate ..................................... gr. xv
   Sodium salicylate ....................................... gr. x
   Potassium iodid .......................................... 5 i
   Glycerin .................................................... 5 ii
   Water........................................................ q. s. ad. 5 i
   M. Sig.: One dram in water, three times a day.

Roentgen rays have been used successfully, but not universally so. Scraping, scarifying, cauterizing, etc., were the local measures of early adoption. Antiseptic lotions and washes to reduce the odor is an agreeable form of symptomatic treatment. Operative measures, such as removing the glans penis because of a stricture caused by the invasion of the process, may be necessary. Early excision of the active growth may be effective. Plastic surgery on cases of long standing is impossible. No operative procedure is feasible once the perineal space of the female is invaded, and the slow but sure advance makes a cloaca. The actual cautery has been advanced by some as being the only means of giving improvement. Most often a combination of all methods is used with varying success.
SOME OBSERVATIONS ON ULCERATING GRANULOMA OF THE PUDENDA AS SEEN ON THE ISLAND OF PORTO RICO

A personal survey of over 12,000 men and 900 women has disclosed four cases of ulcerating granuloma. No case was seen among the soldiers at Camp Las Cases. Two cases were diagnosed in civilian patients at the United States Army Base Hospital, San Juan, and two cases among the women inmates of the hospital jails. Extensive inquiry among the physicians best qualified to know has brought forward no positive statement that the disease has ever been recognized.

Fig. 4 (Case 4).—A lesion about the anus, showing the raised border, the bright granulations, and the protruding papules.

The indications are, however, that the disease has been seen, but was never properly diagnosed. It is probable, also, that many of the physicians on the island do not know even the name of the condition.

REPORT OF CASES

Case 1.—A negress, aged 22, a prostitute by profession, had had a lesion for nine years which had begun as a small ulcer on the left labium majus and which had extended until for the last few months it had produced much discomfort, especially during evacuation of the bowels.

Condition on Admission.—The disease process extended between the posterior commissure of the vulva, included the entire perineal space and circumscribed the anus. Internally, it passed into the vagina for 1½ inches; and to
the internal sphincter of the rectum. The perineal mass was infiltrated, and ulcerations of the mucous surface of the vagina and rectum would ultimately result in a cloaca.

The individual lesions were small papillomas about the size of a pea, and covered with a delicate pink membrane. This membrane reformed within twenty-four hours if removed. The odor was offensive and insistent.

When the patient first came under observation, she presented condylomata lata on the skin surface immediately outside the ulcerated area. The Wassermann reaction was ++++. Intensive arsenphenamin therapy, described below, reduced the Wassermann reaction to negative, cleared the syphilitic manifestations, but the lesions of ulcerating granuloma remained unchanged.

**Case 2.**—A man, a mulatto, aged 32, had had a lesion for about three years, which had begun as a small ulcer in the scrotal crural groove. It had extended peripherally, gave discomfort on evacuation of the bowels, and was offensive because of suppuration and foul odor.

**Condition on Admission.**—The lesions extended from the femoroscratal sulcus backward in such a way as to encircle the anus; about 2 inches wide on each of the opposing surfaces. The process included the anal mucous membrane as high as the internal sphincter. The growth was covered by a grayish slough. Hairs pierced the lesion. In addition to the main condyloma-like lesion, there were individual papules and almond sized lesions in the left femoroscratal sulcus, and a few lesions as high as the lower margin of the pubic border. The lesions extended deeply into the tissue and were raised above the surface. When cut for biopsy, the fresh surface seemed fibrous and shiny. It bled easily. Within twenty-four hours a new slough had formed over the cut area. The skin of the region was moist, soggy and fissured. The lesion in this patient differed clinically from those in the other two. The mass was much more homogeneous, and the small granulations were not so much in evidence. There appeared to be more surface destruction. Clinically, this case corresponded to those first described by Conyers and Daniels as "lupoid form of so-called groin ulceration."

**Case 3.**—A mulatto woman, aged 17, a prostitute, gave a history of an ulcerative process for two years which had begun as a single lesion, and had advanced slowly.

**Condition on Admission.**—The patient presented a series of lesions which involved the posterior fourchet, the posterior vaginal wall and the perineal space. The lesions were from pea to bean size, covered with a grayish film, of foul odor, hard and infiltrating. The invasion of the vagina had proceeded for about 2 inches, and gave a distinctly bony hardness. The patient presented marked lymph stasis of the labia majora, labia minora, prepuce and clitoris. The glans clitoris was as large as an adult's glans penis. The glands of the inguinal and femoral regions were not enlarged. When cut for section these lesions were found to be not so hard nor so deep as those of the preceding case.

**Case 4.**—A discharged soldier, white, two years before had had a small, soft, pendulous, ulcerating papilloma on the intergluteal fold which did not heal. The Wassermann test was negative and local and syphilitic treatment were of no avail. An operation was resorted to, and the lesion was removed. After the operation, which had been performed under a general anesthetic, the patient became disoriented, mildly excitable and uncontrollable. He was removed to the local hospital for the insane, where he remained for eight months.
He has been at liberty for over fifteen months, and his present mental condition is fairly good, although he is unable to work.

Condition on Admission.—Extending from the tip of the coccyx to the scrotal-perineal junction was a massive lesion of bright granulations. The opposing anal folds were affected and also the mucous membrane of the anus. The border was raised, made up of closely grouped papules covered by a thin grayish membrane, and exuded a serous fluid. The center of the lesion was almost covered with bright red, moist, glistening granulations, with an occasional island of a protruding papule of a white or whitish gray color. Internally, the process encroached on the mucous membrane of the anus. The glands of the groin were not enlarged. There was no lesion of any other part of the body. The Wassermann reaction was negative. When cut for biopsy and tissue smear, the lesion was found to extend deeply into the skin as a hard fibrous mass, which bled profusely.

Fig. 5.—Calmatobacterium granulomatis, showing intracellular organisms.

TREATMENT

The first three cases were given antisyphilitic treatment until in Case 1 the condylomata lata disappeared and the Wassermann test became negative, with no change in the appearance of the lesion; and in Cases 2 and 3, until it was seen that the therapeutic test was negative. We gave injections of arsenobenzol (Schamberg), neodiarsenol (Canada), and novarsenobenzol (Billon), with no beneficial effect. Mercuric salicylate in grain doses weekly, intramuscularly, was ineffective. The soluble biniodid gave no improvement. Local applications of calomel were tried, both in powder and ointment form, without benefit.

Case 1 improved temporarily under local applications of solutions of potassium permanganate, 1:1,000. Vaginal irrigations of the same drug helped also, especially in reducing the odor. No advance of the lesion was noted during the period of observation.
Case 2 showed no improvement, except lessened odor after antisypilitic medication and dressings of calomel ointment. The improvement was due in all probability to enforced cleanliness, rather than to treatment. The patient refused injections of tartar emetic and left the hospital at his own request.

Case 3 received five injections of tartar emetic intravenously, one dose every other day, when she complained bitterly of pain extending into the upper arm and chest. The dose was 5 c.c. of the 1:100 solution diluted to 25 c.c. and given by gravity. There was no visible improvement. The thermo-cautery was then used. The results after one week seemed marvelous. The lesion appeared shrunken, the edema of the labia and clitoris had decreased, the odor was diminished.

![Fig. 6.—Calimatobacterium granulomatis, showing intercellular and extracellular organisms.](image)

the patient was much encouraged and felt better. After the cauterization, local dressings were applied. The thermocautery was then used on the mucous surface which had not been cauterized previously. The indications of prompt recovery did not materialize, however, and within a month most of the lymph stasis had recurred. The patient was then removed to another institution where she is seen at intervals. The lesion has resumed its former appearance. In our opinion, the antimony and potassium tartrate had no part to play in the improvement of this patient. We are fully aware that we cannot judge the efficacy of this form of treatment from this case.

Cases 1 and 3 were in far better general condition after their period of observation than on admission. The improved general health did not affect the local lesions.
Case 4 has just come under observation. He will receive the antimony and potassium tartrate treatment. From the former sad experience following general anesthesia and the failure of excision of the early growth to prevent extension, it is thought inadvisable to subject this patient to further operative therapy.

**Bacteriology**

In each of the four cases, tissue smears were made. The surface of the lesion was well cleansed, and under a local anesthetic a portion of the active margin was removed. The portion cut was then trimmed so that only deep tissue was available. This was washed in saline solution, expressed, and the smears made. In this manner no superficial containing organisms were present to confuse us.

In Case 1, tissue smears disclosed the spirochetal organism described by Wise and later named *S. aboriginalis*. This spiral organism varies considerably. Some specimens have about four complete turns, irregular in coil, and of varying thickness. It would most likely be confused with *S. refringens*. Another spirochetal form is present which appears more like *S. pallida*. However, it has usually only four

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1. The bacteriology is being investigated by Dr. Guiliani of San Juan, Porto Rico, who demonstrated the Calimatobacterium granulomatis for the first time in Porto Rico, after the clinical diagnosis had been established.
or five turns, the ends are not off the longitudinal axis, and the "saddle" bump is evident in every case. We are certain that this organism is neither *S. refringens* nor *S. pallida*.

Many slides were stained and a thorough search made for other organisms, especially the *Calimatobacterium granulomatis*, but the search was fruitless.

In Cases 2, 3 and 4, smears made as above indicated disclosed examples of the body described as the *Calimatobacterium granulomatis*. The organism was found within large mononuclear cells grouped in a circle of eight or ten organisms. Each germ was inside its capsule which remained unstained. Each organism was longer than it was broad. No nucleus was distinguishable. Extracellular bacteria were also seen which corresponded to the descriptions given by de Souza Araujo. The resemblance to a dividing bacillus or to a diplococcus was marked. These organisms are much smaller than the intracellular type. The relation of the intracellular and extracellular organisms is assumed to be one of adult and immature forms, but this requires further study. In each of the three cases, the extracellular form was found associated with the larger intracellular type. Occasionally, extracellular examples of the large organism were found also.

The examples of *Calimatobacterium granulomatis* found in Porto Rico are exact duplicates of the organisms pictured in De Beaurefaire Arago and Vianna's study in the Memoires de Institutte Oswaldo Cruz.

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Fig. 8.—Histologic structure in Case 2, showing cellular infiltration and fibrous replacement in cutis.
GOODMAN—GRANULOMA OF PUDEXDA

Cultures were made in Case 3. Tissue blocks from the interior of the lesion were washed in saline solution, rubbed up to form a sort of emulsion, and then planted on various solid and fluid mediums, including Sabouraud’s. The cultures were then incubated at 37 C. (98.6 F.). Growth was evident in twenty-four hours. Isolation of the pure culture was difficult, but after the fourth transplant, was successful. The colonies were small, oval, nonliquefying on agar mediums, shiny and very tenacious. Smears made and stained after twenty-four hour’s growth disclosed organisms smaller than those usually seen within the mononuclear cells, but larger than the “diplococcus” form. Cultures are still being transplanted, and animal inoculation is contemplated.

HISTOLOGY

Cases 1 and 2 were studied histologically. The findings were the same as those transcribed from the histologic studies of Galloway. We have not yet determined the position which the causative organism maintains in the tissue.

SUMMARY

We have diagnosed clinically in Porto Rico, four cases of ulcerating granuloma of the pudenda. In three of these, the Calimatobacterium granulomatis has been demonstrated for the first time in the United States or its dependencies. In one case, the spirochetal organism described by Wise has been observed. We infer that there are two diseases bearing the same name, clinically so similar as to defy differentiation.

The disease is not syphilis, although it may be associated with syphilitic lesions, or be present in a Wassermann positive syphilitic, free of syphilitic manifestations. Salvarsan and mercury are ineffective in its treatment. Antimony and potassium tartrate was not given a sufficiently thorough trial to warrant any positive expression of its efficacy.

The finding of only two cases among 900 prostitutes (12 per cent. of whom had active syphilitic manifestations), proves that the danger of infection at the present time in Porto Rico is slight, but should not be entirely disregarded. Quarantine measures should certainly be introduced to prevent the transfer of the infection, especially to our southern ports, either from Porto Rico or from South American countries.

The bacteriologic, histologic and microphotographic studies were made in collaboration with Drs. Gutiérrez, González Martínez and Guiliani at the Institute of Tropical Medicine and Hygiene of Porto Rico. Dr. Guiliani will report at a later date the further studies on the organism isolated from Case 3.
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EROSIVE VULVITIS

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The disease of men known as erosive and gangrenous balanitis has been recognized for several years. The same disease occurring in women as erosive and gangrenous vulvitis is not generally recognized.

Three cases of this disease have come under my charge in the Department of Venereal Diseases of the United States Public Health Service. I have successfully isolated the etiologic organisms in each case.

ETIOLOGY

The organisms isolated in each instance were the typical spirochete and vibrio growing in symbiosis as described by Tunnicliffe.

The spirochete averages from 5 to 30 microns in length, has very rapid motion, is gram-negative, and takes the ordinary dyes well. It has an especial tendency to grow in the more superficial of the diseased parts.

The vibrio, or fusiform bacillus, is about 2 microns in length and 0.8 micron in width, pointed at each end as one of its names infers. It grows singly or in chains, is gram-positive when carefully decolorized, and takes the ordinary anilin dyes. In my cases this organism seemed to penetrate the deeper tissues, and it was necessary to probe deeply with a capillary pipet in order to obtain a specimen for microscopic study. This would seem to be in accord with the anaerobic nature of the vibrio; i. e., reproduction occurs under anaerobic conditions.

The predisposing causes seem especially to be filth and prostitution, with attending frequent copulation and exposure, and unnatural sexual relations. All three women were inmates of the jail in Richmond, and all had been convicted for prostitution. The diseased genitals were extremely dirty, with a large amount of discharge from the focus as well as from the vagina, and presented ideal conditions for the growth of the specific organisms. In each instance there was extensive ulceration of the part with a slight amount of local edema. Two of the cases presented an inflammatory involvement of Bartholin’s gland, while the third gave a history of such an involvement two years before.
SYMPTOMS

The first case (Fig. 1), the least severe of the three, presented an area of ulceration extending from the clitoris posteriorly to the margin of the anus. On the right side it was bounded by the labium minus, but this structure on the left side was partly sloughed off, so that only the anterior portion remained, the ulceration on this side extending laterally on the inner side of the left great labium. This lesion was erosive, with the edges somewhat turned outward, standing above the ulcer itself and the surrounding tissues. A grayish yellow pus exuded from the surface of the ulcer as well as from the vagina, for the erosion had involved this canal for from 1 to 2 cm. inward; the pus was characterized by the same foul odor as that of erosive and gangrenous balanitis. The lesion was dark red, and when it was covered with the characteristic yellow pus it appeared quite similar to the color noted in an ordinary varicose ulcer of the leg. The left labium majorum was somewhat edematous and showed a very evident abscess

Fig. 1 (Case 1).—Area of ulceration extending from the clitoris posteriorly to the margin of the anus.
in Bartholin's gland, for the skin covering it was tense and shining, and the labium greatly swollen and fluctuating. A second similar erosion, but only about 1 cm. in diameter, appeared on the inner surface of the labium at its anterior end just before it merges into the mons veneris; it would seem from this and from the second case that the organisms were auto-inoculable.

The second case (Fig. 2), while relatively of medium severity, was ulcerated extensively, but the destruction had not advanced to such a stage as that noted in the third case. The main area extended from the interior margin of the symphysis pubis to the anterior margin of the anus.

Fig. 2 (Case 2).—Area of ulceration extending from the inferior margin of the symphysis pubis to the anterior margin of the anus.

of the anus. Laterally, on each side the labia minora had been destroyed, while the posterior portion of both labia majora had sloughed off and the remaining anterior portion had been extensively undermined, so that in the standing posture these structures hung down slightly, giving somewhat the appearance of a scrotal sac. Besides undermining the labia majora, the ulcer covered the inner side of both labia and posteriorly passed laterally over the ischiorectal fossa. The clitoris was involved and had partially sloughed away, while the vagina was involved inward for a distance of from 1 to 3 cm.,
as in the preceding case. The appearance of the ulcer and the character of the pus were the same in this case as in the first, but here there was a bilateral involvement of Bartholin's glands, which presented a tendency toward suppuration also. Three smaller ulcerations were presented: one on the outer side of the left great labium, and the other two, one on each side just posterior and lateral to the anus, on the medial margins of the buttocks.

The most severe case (Fig. 3) presented an almost complete destruction of the vulva. The labia and clitoris had completely

![Image](https://example.com/image.png)

Fig. 3 (Case 3).—Area of ulceration extending from base of clitoris anteriorly to tip of coccyx posteriorly and laterally on each side as far as outer limits of labia majora.

sloughed away, leaving a slit-like ulcer between the legs, with the vagina and anus quite similar in appearance at their outlet, presenting a depressed area in the slit. The ulcer itself extended from the base of the clitoris anteriorly, to the tip of the coccyx posteriorly, and laterally on each side as far as the outer limits of the labia majora, which had completely sloughed off except for a short distance just posterior to the mons, where they projected backward to about the anterior margin of the vestibule. Bartholin's glands had been totally destroyed on both sides. This ulcer was of the same general char-
acter as noted in the first instance, except for its obviously more destructive nature; the pus had the same characteristics.

In all three cases the inguinal lymphatic glands were involved. On palpation they were hard, nodular and moderately enlarged, but there was no suppuration. No systemic changes of pathologic significance could be noted.

Locally, there were symptoms that pointed to a chronic process. Case 1 had existed for eight months; Case 2 was of two years' duration; while Case 3, the most severe, began three years before. Local pain and discomfort with violent itching seem to be constant factors. Dysuria was more or less marked. All the cases had had a foul smelling leukorrhea since the date of onset, and the discharge preceded the vulvar condition in at least one instance.

Generally, there appeared to be a slight degree of toxemia, and the patients showed some degree of melancholia.

In each of the three cases the Wassermann reaction was negative. There was no response to antisypilitic treatment, including arsphenamin treatment. In each the characteristic spirochete and fusiform bacilli were isolated from the serum of the ulcers.

**DIAGNOSIS**

Any persistent ulceration with a negative Wassermann reaction and the general characteristics noted above should be regarded as suspicious, and some of the serum should be obtained for bacteriologic study. If the serum shows spirochetes and fusiform bacilli the diagnosis is conclusive. The infection might, of course, be superimposed on other lesions of the genitals.*

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THE SOLAR KERATOSES AND CUTANEOUS CANCER

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The face, neck and hands comprise but a small portion of the surface of the human body, yet, according to my personal observations, 49.6 per cent. of all cancers are cutaneous cancers of these parts. It may be admitted that cancer beginning at the mucocutaneous margin of the lip is due to a special class of causes—smoking, traumatism during shaving, eating, etc.; but if cancer of the lip be eliminated and considered as a special form of the disease, there still remains 37.7 per cent. situated on those regions exposed to solar light. Unna wrote of sailors' cancer, which manifestly occurs in men exposed to much direct and reflected insolation. Hyde asserted that light is productive of cancer of the face and included cancer of the mucocutaneous margin of the lips in the general classification. I believe with Dubreuilh that they should be classified and studied aside from those attributable to solar light.

CANCER OF THE LIP

My own statistics, while not founded on a great number of cases, are based on the clinical records of cancers coming into my hands in private practice; and from the beginning of my work with cancer I have made a persistent effort to determine the etiological factors of each case. From a study of the clinical histories of my patients, I have satisfied myself that cancers of the mucocutaneous margin of the lip, or cancers commencing at that point, are in no way due to solar light. Further, the lips near the margin seem, for some reason, to be immune to the development of keratoses. It may be that the lips are, by reason of their comparatively great blood supply, more resistant. This seems a poor explanation. Nevertheless, I have never seen a keratosis at or near the lip margin. I would also note the significant fact that while a large percentage of cutaneous cancers of keratotic origin are of the basal celled type, most cancers of the lip margin are of the cuboidal celled type. The great majority of these patients give a history of trauma, herpes, eczema of the lip, etc. A study of these clinical records, however, shows that cutaneous cancer of covered parts is quite rare and, when found, is nearly always traceable to traumatism, while 37.7 per cent. of all cancers, both deep seated and superficial, have occurred on the face (exclusive of the lip margins), the hands and neck, parts exposed to solar light; and that they have attacked
persons whose vocations or habits involved insolation to a considerable degree. Unna, Hyde and Dubreuilh have written on this question, and all believe that insolation produces keratoses and that these are the most frequent of precancerous lesions. I am convinced that this is true. I do not know of any dermatologist who takes the opposing view.

**Basal Celled Cancer**

The facts which I shall report and the arguments I shall present are based wholly on personal observations in private practice. The patients involved are not overwhelming in number, but my observations have the merit of having been made with personal care from the beginning of my study of cancer, in 1906, with a desire to add something even slightly illuminating to the etiology. I have, therefore, the record of every case I have seen, whether treated or not. Official vital statistics are deceptive in that (in case of cancer) only the deaths are reported. As great progress has been made in methods of treatment, and since many cases are cured, those statistics are not of great value for present purposes. The basal celled cancer is the type most frequently supervening on a keratosis; it is of comparatively slow growth, does not have as great a tendency to metastasis and yields more readily to roentgenotherapy than does any other growth.

**Keratoses in the Aged**

Dubreuilh has made a profound study of this question and has published his conclusions in his admirable paper "Epithelioma of Solar Origin," based partly on a long experience in dermatology and partly on observations collected from the Faculty of Medicine of Bordeaux by Ferrer. His conclusions, which I believe quite logical, are that keratoses of the aged are caused by chronic insolation; that this is the required agent for their production almost regardless of the age of the patient; and that these keratoses certainly tend to a malignant transformation. He also concludes that since blond people react more vigorously to insolation, they are much more prone to the development of keratoses and consequently of cancer; that the brunet quickly acquires a coat of tan which increases with exposure and protects against dermatitis and, consequently, against formations of keratotic lesions, which protection is denied the blond; that the much talked of heredity consists merely in the heredity of a skin of non-resistant character, and not a heredity of cancer *per se*.

It has been facetiously said that anything can be proved by statistics. This is true only if the statistics be improperly or untruthfully used. In the abstract, it ought to be assumed that one who has labori-
ously compiled a series of observations has done so in an unprejudiced effort to benefit mankind. If the conclusions of Dubreuilh be accepted as correct, as I believe them to be, much interest is added to the study of cancer. My own observations are confirmatory of those of Dubreuilh. Age is certainly contributory to the development of keratoses, but is not an essential factor, for keratoses are observed in many people of middle age and in some of less than middle age, whose protected skin has the elasticity and other characteristics of youth.

**AGENCIES IN THE PRODUCTION OF SUNBURN**

There are certain agencies which contribute in a marked degree to the production of sunburn. Dubreuilh calls attention to the facility with which the reaction is produced by reflection of the light from water and the intense effect of that reflected light on the photographic plate. As he, himself, is a mountain climber, he has noted the intense insolation by reflection from glaciers and mountain snow fields. For both of these reasons he urges that insolation is caused not at all by the heat of the sun’s rays, but by the chemical effect of the rays, chiefly the violet and ultraviolet rays. I recall that many visitors at the St. Louis exposition were badly sunburned entirely by reflected light, because the walks and drives were light in color, and because the surfaces of the buildings were covered with white stucco. Who has not experienced tenderness of the face and malaise while walking the streets of a city for a protracted length of time on bright summer days? The same result may be felt during automobile trips over white or gray stone roads, though sheltered by the top and protected by the wind shield.

During the Great War, some of the camps of the United States troops were situated on the peculiar white or so-called “crayfish” clay. I was in such a camp in the summer of 1918, and personally experienced and witnessed this sunburning by reflection from the light colored soil and heard of the same occurrence from another camp.

It is not always possible to secure a history of keratoses. Usually, these lesions are given little or no thought by the patient, and it is only after a malignant transformation has begun and has frequently become well advanced, that the patient takes notice of it and seeks treatment. A study of the occupation and environment of these patients is, however, possible and must be of interest. It is always possible to establish the age, vocation, habitat and environment of the patient, and it is likewise possible either to establish or to eliminate some of the possible causes of cancer as, for instance, a history of traumatism. If a man is cut by the barber’s razor he will never forget
it. And I have been able to establish this form of trauma as the exciting cause of several cases of cancer at the lip margins. The barbers universally shave the lower lip with an upward stroke and exert considerable force, resulting in frequent small wounds. In considering occupation and consequent subjection to insolation, I find that 93.5 per cent. of the patients were farmers or farmers' wives, or other persons with known outdoor vocations. One patient was a physician who had always engaged in a country practice involving a great deal of driving and exposure of the hands. He developed a horny keratosis on the dorsal surface of his left hand which proceeded through a characteristic malignant change. I find another epithelioma in the same situation following a typical cornu cutaneum. The patient was a woman of 70, who for many years previously had led a sheltered life in retirement, but who, until her maturity and marriage, had worked in the fields, and without doubt had been subjected to much insolation after that time, for she and her husband led a semi-pioneer life on a farm.

A considerable proportion of the patients were veterans of the War of the Rebellion which sufficiently accounts for their insolation even if they had lived protected lives ever since. One was a veteran who had been a carpenter ever since. It must be noted that a carpenter in rural places, or in cities other than the largest, spends many days on the roofs of houses. This man's face was almost covered with keratoses in all stages of development, from the brown spot to the piled-up friable mass, and three had transformed themselves into epitheliomas.

**PIGMENTATION AS A FACTOR IN KERATOSES**

Dubreuilh asserts that blond people are more prone to the development of solar keratoses than dark skinned people. This is strikingly confirmed by my observations, for I find that 62 per cent. of my patients were blonds, 7 per cent. were dark-skinned persons, and 31 per cent. were chatains, or persons having dark hair but having a skin only slightly pigmented. This to me is not the least interesting phase of the question. The more I study it the more strongly I conclude that not only is Dubreuilh correct in his conclusions, but also that he has put the case too mildly. None of the dark-skinned races develop keratoses, though they, more than any others, are exposed to insolation. I have seen American Indians of great age with the skin of the face deeply furrowed and minutely wrinkled, but without the slightest trace of keratoses. I believe that race to be immune to keratotic changes. Though I have always had the American negro under observation, I have never seen either a keratosis or a cancer of the exposed skin in them.
Aside from an admixture of blood, dark-skinned persons are rare among Caucasians in the United States. The color of the face cannot be taken as a true guide in order to determine whether the owner shall be called blonde, or brunet or chatain. To be a true brunet and to be immune to insolation changes means that there must be dark eyes, hair and skin. And the skin of the face is deceptive, for the real brunet acquires a degree of tan with his first insolation and never loses it, but to the contrary adds to it with each succeeding exposure. I have in mind a man of advanced age whose face has deepened in color until it is but little lighter than that of an American Indian without a sign of keratoses. I have recently seen a woman with a much darkened face which is almost covered with keratoses in various stages; there were also several keratoses on her hands. I was astonished because she also had dark eyes and hair, seeming, in fact, a true brunette; but when she lowered her bodice to display a Paget's disease, I saw a white-skinned chest and a much freckled neck. On inquiry, I found that her mother had been a fair blonde; that the patient had had a fair skin in girlhood, and that she worked in the fields. Evidently this woman, despite a partial pigmentation, had inherited the non-resistant skin of her blonde mother and the dark eyes and hair of her father.

The albino acquires no pigmentation under insolation, and not even a freckle. He is almost blinded by the sun, suffers intensely from dermatitis and never acquires an immunity. although he is persistent in his efforts to minimize his exposure. After the albino, the color of the blond, chatain and brunette is relative. Some blonds react strongly to the sun, acquiring a dermatitis which is repeated with each exposure, still they are never tanned. Other blonds react less viciously and acquire many freckles and slight partial immunity. The chatain reacts strongly at the beginning of each summer, but quickly acquires a tan and partial immunity. This tan, however, is not permanent as with the true brunet, but will bleach out during the succeeding winter. Consequently, the chatain, if exposed, is the victim of solar dermatitis at the beginning of each sunny season, and this more than sufficient for the production of keratoses. A study of these cases with reference to their habitat reveals a strikingly interesting fact. Dubreuilh very ably shows that insolation of the face with consequent degenerative changes can occur with facility by light reflected from snow, ice and water. Of my patients, 60 per cent. came to me from regions in southern Indiana and Illinois, regions with a soil of very light color which can and does, as I know from personal experience, act efficiently as a reflector of light.
Professor Dubreuilh, in recent correspondence, informs me that a very high proportion of the patients suffering from solar keratoses and epitheliomas entered at the Faculty of Medicine at Bordeaux came from a certain region in southwest France, noted for its peculiar white, chalky soil. In my own work, I am able to compare a white clay district with another of similar extent, population and vocation of the people, but with a soil of reddish yellow clay, and I note that the latter district produces comparatively few facial cancers or keratoses. In this comparison, I wish to emphasize that all conditions are similar; both are rural districts, in which the great majority of the inhabitants spend their entire lives. People of the rural districts of the middle west have no nomadic tendencies, but as a rule live and die near their birthplaces. The only difference determinable by me is in the color of the soil.

Analysis of another group of patients who lived in a city located in a region of dark loam further proves my contention, for it reveals the following: thirteen had been farmers and had moved to the city late in life; one had spent most of his life on the farm and for several years previous to the development of the epithelioma had been a mussel dredger, spending his days in a small boat where he was exposed to insolation in two ways. Some of these people had formerly lived in a white clay region. With nearly all of the entire number of cases studied, it could be established that at least for a considerable portion of their lives they had pursued outdoor vocations and had been exposed to the effects of solar light for a time amply sufficient to produce pathological changes.

MORE ATTENTION GIVEN TO SUNBURN AND KERATOSES

Even in recent years the death rate from cancer of the face has been high. This was partly due to the contempt of the rural inhabitants for sunburn, and to their ignorance, as well as the ignorance of the medical profession, of its evil sequence and, in part, to vicious methods of treatment. To my personal knowledge many cases had no treatment at all, and many others were victimized by quacks. The death rate is still much higher than it ought to be, for the entire morbid ensemble is not only largely preventable, but it is also entirely or almost entirely remediable.

The older inhabitant of rural America was proud of his vocation and environment. He was ready to display a sun-tanned face and calloused hands as evidence that he was a farmer. In fact, he was inclined to hold in contempt, dwellers of the cities by reason of their
white faces and well cared for hands. A famous man was once defeated in his race for the office of governor of Indiana because it was charged he wore kid gloves by an opponent whose proud boast it was that he wore blue jeans clothing.

The conditions are changing, however. The younger man in rural life has no desire to have his visage blackened by sun and, likewise, he prefers to have his hands white and soft. I note that the average plowman now wears gloves. He no longer considers himself a yokel, but a man of affairs, and in this he is correct. His prospective better half has made great advances in refinement and education, and it behooves him to keep pace for the automobile has vastly increased the size of her world, and the young man has rivals.

Time was, and not long ago, when the average physician of rural America gave no attention to keratoses. He regarded them as wholly incidental to senility and referred to them as "old age spots." If consulted in regard to the keratoses he would scorn to give thought to anything so trivial, for he was a busy man, engaged with present emergencies instead of looking to the future. I have heard the advice, "Do not bother anything until it bothers you." Of course, it is unnecessary to argue that anything pathological is worthy of the attention of medicine and certainly this applies to a condition so surely remediable as are keratoses. The keratosis is an admitted precancerous lesion; therefore it should unfailingly be removed.
That the words should carry the exact and definite meaning assigned to them, would seem to be a natural requisite and necessity for an intelligent and productive exchange of ideas. That a clear and definite terminology is a sine qua non in any branch of science, seems also to be a truism. Medicine, as a branch of natural sciences, dealing with a concrete and tangible subject matter, should be capable of an exact and definite terminology and should be particularly insistent on the correct use of it.

Of all branches of clinical medicine, dermatology, which enjoys a unique distinction of visualizing its subject matter and of being able to verify its clinical observations by the histopathologic study, would seem to be the one best capable to select terminology of a steady and definite content and to attain the complete unity between a dermatologic term and the clinical concept expressed by this term. Yet how often a medical reader is struck by a loosely constructed sentence, wrongly used terms and a vaguely conceived idea in dermatologic writings, particularly in the general medical press. However, the purpose of this paper is to call attention, not to the casual lapses and carelessness of individual writers, but to the wrong designations and terms sanctioned by the daily use of the body of dermatologists and incorporated in the official dermatologic nomenclature.

Philologic Misnomers

Let it be understood, though, that the writer does not protest here against purely philologic misnomers. The bulk of the original dermatologic names have been handed to us by Greeks and Romans. These names notoriously misfit their respective dermatoses and do not convey in the least their most striking clinical and morphologic characteristics.

For instance, eczema means in Greek "boiling out," presumably, referring to its exudation and weeping. Obviously, it covers only one clinical feature of eczema, and does not fit at all for all classes of dry eczemas. Psoriasis means in Greek, "itch," another greatly misleading term. Itching is a casual, rather uncommon and the least characteristic
feature of psoriasis. Erysipelas means in Greek, "red skin," obviously, a meaningless and misleading name, as it can be applied to any inflammatory dermatosis. Acne means "a pointy prominence," a vague term that can be applied to any papular eruption. Lichen means symbiotic algae and fungi — a rather mysterious and symbolic designation which gives no inkling as to its clinical characteristics. Sycosis, "fig like" in Greek, is another image symbol of doubtful success. Sarcoma, in Greek "flesh," is another vague term which can be applied to any raw looking lesion.

These are a few of the many philologic inconsistencies in dermatologic nomenclature. Glaring as they are from a philologic point of view, from a dermatologic point of view they are the least harmful, and can be left undisturbed. The mind of the modern clinician is too far removed from classic influences, and he is not aware of this offence against classical languages. The abuse of Greek terms does not interfere with his clear conception and visualization of the clinical pictures conveyed by these terms, and does not conflict with his reasoning and analysis of clinical and pathologic facts.

The writer is willing to overlook also philologic incongruities and disharmonies of coupling together the Greek and Latin words, such as erythema multiforme, sycosis vulgaris, pityriasis versicolor, etc.

DESCRIPTIVE MORPHOLOGIC AND PATHOLOGIC MISNOMERS

Far more important and unjustifiable from the dermatologist's point of view, are the names and designations which frankly misrepresent clinical and pathologic characteristics of the dermatoses to which they are attached. Many of these names are of historical interest only, as they represent the best dermatologic thought at the time of their creation. It is high time, however, to revise dermatologic nomenclature in the light of modern research.

It is surprising how little has been attempted by the American dermatologists to expurgate and modernize their nomenclature. The latest effort was made in 1914 by the Committee of Classification of the American Dermatological Association. The Committee suggested few changes of a purely academic character, such as: steatoma for atheroma, molluscum for molluscum contagiosum, favus for tinea favosa, trichophytosis for tinea trichophytosa and xanthelasma for xanthoma palpebrarum. More important and substantial suggestions have been brought out by the individual speakers in the following discussion, but no systematic and comprehensive changes have been suggested.

It would be of immense benefit to the dermatologist to take an inventory of his nomenclature, to rearrange it according to modern...
conceptions and to do away with a lot of relics of the past which are unnecessary and no more serviceable. The very fact of redundancy and superabundance of dermatologic nomenclature so often commented on and lamented about, can be utilized for the purpose of selection of more correct and better fitting names. The correct and rational selection of nosologic names is probably of greater importance in dermatology than in any other branch of clinical medicine, as dermatologic classification is still largely based on morphologic differences. Dermatology more than any other branch of medicine is engaged in word painting of clinical pictures in its terminology, and is trying to embody in the names of its nosologic forms as many clinical characteristics and features as possible.

For the same reason the correct nomenclature would also relieve immensely the burden of the general practitioner struggling with the pitfalls of dermatologic diagnosis, for he is largely, and excusably so, looking for morphologic characteristics in the names of dermatoses.

The writer wishes to submit here the most glaringly inconsistent and misleading misnomers of dermatologic nomenclature and pleads for their revision and correction.

ERYTHEMA GROUP

1. **Erythema induratum**.—Possibly, the most glaring dermatologic misnomers can be found in the group of erythemas. Erythema in the strict and correct meaning of this word is a well defined and clear cut clinical and pathologic entity, and means hyperemia, active or passive. Hence no condition which shows clinical phenomena of infiltration or exudation can be termed erythema. How untenable and undefensible then is the term erythema induratum! It is a pathologic impossibility and clinical self contradiction. It is self evident that the pathologic equivalent of erythema hyperemia cannot produce clinically either infiltration or ulcerations. Erythema induratum is admittedly a granuloma of tuberculous nature and should be properly classed with the tuberculous group of dermatoses. Tuberculoderma ulcerosum or Bazin's disease, as suggested by Pollitzer of the Classification Committee, in 1914, is a perfectly rational name and deserves an unqualified approval.

2. **Erythema Nodulare**.—This is an equally untenable name. What is in common, both clinically and pathologically, between a mere hyperemia and inflammatory tumor-like nodules of erythema nodulare? The lack of exact knowledge of erythema nodulare makes it difficult to select a rational name for it, but the present name is, certainly, too grossly misfit to be tolerated any longer.
3. For the same reasons the generic term erythema multiforme is untenable, as among numerous variations only erythematous groups are true erythematous. The only variations, to which a true erythema is subject, are being arterial or venous, acute or chronic. Evidently, erythema, as such, cannot change its form into a papule, nodule or bulla.

4. On the same grounds the term erythema hyperemicum used by many textbooks, should be discarded as being misleading and tautologic in nature. There is no other kind of erythema but hyperemic.

We cannot use the same word erythema, both as a pathologic term designating a specific and well defined condition of hyperemia and also as a generic name for multiform lesions of the skin. To do so means not only to bring an utmost confusion into dermatologic classification, but also to be guilty of grossest violation of the fundamental principles of scientific terminology. For want of a better name why not call erythema multiforme dermatosis multiforme? It is less specific, but it is also less objectionable.

DERMATITIS GROUP

The same error in using the name dermatitis in a double capacity, both as a specific pathologic term and as a generic term designating multiform inflammatory disorders of the skin, has led to a number of dermatologic misnomers. Dermatitis is a well defined clinical syndrome. In spite of the strenuous efforts by some clinicians to separate it, as an independent clinical entity, it is synonymous and to all intents and purposes identical with eczema. It always signifies a diffuse inflammation of the skin, erythematous, papular or vesicular in character, with ill defined borders, desquamating or weeping and infiltrated in the chronic stage, itchy and without any tendency to a cyclic or self limited course. Any skin disorder differing widely from this classical syndrome should not be regarded as dermatitis.

DERMATITIS VS. ECZEMA

From this point of view the following names call for a revision:

5. The name infectious eczematoid dermatitis, suggested in 1902 by Engman for eczema associated with staphylococci, can be challenged on two points. First, the term eczematoid dermatitis implies clinical or morphologic differences between eczema and dermatitis. Yet no tangible or demonstrable evidence, either clinical or pathological, has been advanced to sustain the duality of these two terms. This has been amply brought out in a thorough and comprehensive literary and pathologic study by Walter Highman in 1917. All attempts by various writers to force such duality has led to unnatural and conflicting deductions.
Let us consider, for instance, the differential claim that dermatitis is mostly of local and well ascertainable etiology, while eczema is of systemic and unknown origin. The very basis of this differentiation can hardly be sustained. The mere difference of etiology could warrant only a separation of idiopathic eczemas from specific eczemas and idiopathic dermatitides from specific dermatitides, but it does not justify the creation of two separate clinical entities to express merely the difference of etiology in otherwise identical conditions. Moreover, this claim admits most striking and conflicting exceptions. For instance, is dermatitis exfoliativa or dermatitis herpetiformis of local, easily ascertainable origin? On the other hand, so-called parasitic or trade eczemas are of local, readily ascertainable origin. The efforts to retain the two terms as independent entities have led to confusion and conflicting deductions even on the part of the most competent observers. Thus, discussing the relative intensity of the pathologic process of dermatitis and eczema in the chapter on eczema due to irritant plants, Pusey says: "These frequently produce a reaction so violent that it oversteps the bounds that we assign to eczema. Such cases are considered under various forms of dermatitis."

On the other hand, says Stelwagon: "All the agencies capable of bringing on by their local or weakening action erythema or dermatitis are also capable in such persons of provoking a veritable eczema, especially when long continued or repeatedly acting."

It seems that nothing but the force of habit and mental inertia guides the body of dermatologists in using the terms dermatitis and eczema. The same writers who insist on the differentiation of these terms use them indiscriminately and interchangeably in some cases, such as seborrheic eczema and seborrheic dermatitis, or trade eczema and trade dermatitis. The prevailing confusion is undoubtedly due to the insistence of differentiation of two identical and interchangeable clinical concepts. It occurs to the writer that the time honored but vague term eczema can be discarded and left for the laymen’s use only. Dermatitis, as the more rational and scientific term, should be the only one used by dermatologists.

**INFECTIOUS ECZEMATOID DERMATITIS VS. STREPTODERMATITIS**

The name infectious eczematoid dermatitis is open to objections because it emphasizes the difference between eczema and dermatitis which cannot be sustained. The other adjective—"infectious"—can also be challenged as being too comprehensive and to that extent misleading. The cases described by Engman in 1902 are due to staphylococci or possibly to mixed staphylococci and streptococci infection.
The cases are closely allied, if not identical, with so-called dermatitis repens, and are aptly termed by Sabouraud exudative streptodermatitis. The specific bacteriologic etiology is the most important differential feature of these cases. Yet the name "infectious" is general in character and may mean any parasitic dermatitis, such as seborrheic, trychophitic, one due to scabies or to any other animal or vegetable parasite. Sabouraud's appellation streptodermatitis or staphylococdmatitis seems to be more exact and appropriate, and deserves a decided preference.

6. In this connection it may be mentioned that the name dermatitis repens does not fit perfectly its clinical content. As cited above, it is closely allied, if not identical with the form described by Engman. While pathologically, it is a frankly inflammatory process, clinically it differs markedly from the ordinary clinical conception of dermatitis, as a diffuse catarrhal inflammation of the skin. Sharply defined serpiginous borders, advancing vesicular edges with an undermined detached epidermal collarette, glazy or shiny surface of the central parts, oozing or dry, occasionally slightly atrophic, healing over older central areas of the lesion, lack of infiltration in spite of the duration of many years, absence of itching and a decided preference in distribution for the extremities—all these features render it easily differentiated on clinical grounds from ordinary dermatitis or eczema. The adjective "repens," meaning creeping, is also slightly misleading, as the extension of the lesion through an advancing edge is characteristic of all parasitic conditions, be it seborrhea, lupus vulgaris, tinea, etc. Streptodermatitis or staphylococdmatitis would seem to be a rational substitute, both for dermatitis repens and infectious eczematoid dermatitis.

7. Dermatitis papillaris capillitii clinically is anything but dermatitis. It is distinctly a follicular inflammatory process with secondary atrophy and keloidal sclerosis. The clinical and pathologic picture of the condition is so radically different from an ordinary dermatitis that it is almost difficult to account for the origin of the name dermatitis papillaris capillitii, which should be discarded as grossly defective and misleading. The names already suggested by various observers, such as acne keloid or folliculitis keloidalis, are much more rational and should be used instead.

8. Dermatitis factitia is another unwarranted name. The clinical picture of it practically never bears the slightest resemblance to the diffuse skin catarrh of dermatitis. In fact, a diagnosis of dermatitis factitia is made essentially on the presence of the clinical features absolutely exclusive of common dermatitis, such as discrete and sharply defined lesions, crusted, bullous or gangrenous in character, of pecu-
liarly fancy or regular outline, suddenly cropping out on widely scattered parts of the body. A substitution of dermatosis factitia for dermatitis factitia would seem to be appropriate.

9. Dermatitis herpetiformis is a name given by Duhring to his brilliant clinical synthetic conception of papular, vesicular and bullous toxic dermatoses. One would naturally hesitate challenging the name selected by one of the giants of dermatology. However, analyzing the picture of dermatitis herpetiformis, it is hard to see the justification for the term dermatitis. The average case of dermatitis herpetiformis is so utterly unlike any dermatitis or eczema that none of the numerous American textbooks finds it necessary even to differentiate it from any form of dermatitis. It is true, the individual lesions and patches are inflammatory in character, but so are individual lesions of herpes, lichen, psoriasis, infectious exanthemas, etc.; yet we do not call them dermatitis, as a whole, because the composite clinical picture and the clinical behavior are so widely different from the common conception of dermatitis. A substitution of dermatosis herpetiformis or the simple name of Duhring's disease seems to be a nearer approach to the correct name.

10. Dermatitis venenata and dermatitis medicamentosa, jointly considered, call for some comment. Dermatitis venenata by itself is a correct term and represents a perfect type of dermatitis due to a local irritation. But the adjectives venenata and medicamentosa are synonymous, if not identical, and they do not express the assumed difference in meaning unless by an arbitrary mental reservation. Dermatitis medicamentosa expresses correctly the clinical type of lesion only in the erythematous group of drug rashes. But an equally large, if not a larger group of drug eruptions comprising bullous, carbuncular, gangrenous, herpetic, keratotic, nodular, pigmentary types, is, obviously, not covered by the term dermatitis. A more general and comprehensive name, dermatosis medicamentosa, seems to be more proper.

11. Lichen scrofulosorum is one of the names that calls loudly for a revision. Its clinical resemblance to the lichen type is so crude and remote as to be totally misleading. In fact, the only feature in common is the papule formation. Everything else — color, distribution, grouping, clinical course, surface and appearance of the lesions, subjective symptoms, etiology and pathology are entirely different. Since the general consensus of opinion regards lichen scrofulosorum as one of the tuberculids, it seems that follicular or papular tuberculid would be a more correct name.

Closely allied clinically to lichen scrofulosorum are acnitis and folliculis, which are open to objections on similar grounds, particularly the first. These names were, obviously, selected because of their clinical
resemblance to acne and folliculitis. Speaking on general principles, the selection of names on the strength of similarity of one condition to another is permissible and, indeed, may be indispensable, when the condition under consideration is not sufficiently understood to name it on its own characteristics. Such is not the case at the present time in regard to acnitis and folliculis. Both conditions are known to be tuberculous granulomata and by most of observers are considered to be mere variants of the same process. The name of papulonecrotic tuberculid would seem to be perfectly fitting and rational.

13. The same reasoning will hold good for acne varioloformis, provided it will prove to be a tuberculid. However, until Sabouraud's claim that it is due to staphylococcic infection on a seborrheic base will be refuted, the revision will be held in abeyance.

14. Acne rosacea is not an entirely satisfactory name and can be improved by dropping the appellation acne, which has already been done by several writers. It is true that acne and diffuse seborrhea are commonly associated with rosacea, as a secondary phenomenon, but the primary and essential pathologic process of rosacea—the loss of the vasomotor tonus, permanent congestive hyperemia and telangiectases—is of entirely different nature than that of acne or seborrhea. From a broader biologic point of view acne vulgaris and rosacea are quite opposite to each other in character. Acne vulgaris is mostly found in adolescents, and is the expression of physiologic exuberance and functional glandular hyperactivity. Rosacea affects mainly people after 30 or 40, is a degenerative phenomenon and the expression of premature debility or senility of the skin. From this point of view the name acne rosacea is rather misleading and self contradictory. While the elements of acne and seborrhea must be recognized as a component part of the clinical picture of rosacea, they should not be overemphasized to the extent of incorporating them into the names. The plain name of rosacea is to be preferred.

15. One of the most striking illustrations of the callousness and indifference of dermatologists, as a body, to various monstrosities of dermatologic nomenclature is the retention and use by every textbook of the terms sycosis vulgaris and sycosis parasitica, in spite of the universal recognition of the gross imperfection and misleading nature of these terms. The conditions are both parasitic; one is due to staphyloccoci, the other to the trichophyton fungus. Why not use already available rational names—sycosis staphylogenesis or coccogenes and sycosis trichophyton or hypogenes?

16. Closely related to this is the time-honored name, ringworm. Who can deny the misleading and ensnaring influence of this name on the general practitioner who persistently refuses to diagnose a skin
lesion as ringworm unless it looks like a ring? Yet in the total number of clinical forms of tinea due to the trichophyton and microsporon audouini fungus, ringlike lesions probably constitute the minority. A diagnosis of the average case of tinea is made clinically on sharply defined borders, superficial character of the lesions and the mode of development rather than on the annular form. Tinea trichophyton should be the name used, and ringworm should be reserved for the layman's use only.

17. In the name tinea versicolor the designation versicolor is rather inexact and misleading. An average case of tinea versicolor does not present any diversity of color, as the adjective implies. On the contrary, it has rather a homogeneous and uniform color of a fawnish yellow brown tinge, closely simulating chloasma. Tinea furfuracea microsporina would be a more rational name, even though it is less euphonic. By the way, it may be remarked here that euphony and other esthetic requirements can hardly be considered in the selection of a dermatologic name, and if they are, they may be considered only after all other requirements have been fully met.

In concluding the list of the most glaring misnomers we may say that the so often commented on confusing name of tubercular syphiloderma should be permanently abolished in favor of the English adjective already in use, nodular syphiloderma.

The above list of misnomers and suggested corrections is offered here without any claims of being final or comprehensive, merely to stimulate a discussion and to hasten the revision of dermatologic nomenclature which has already been unduly delayed.
HENRY WEIGHTMAN STELWAGON, M.D.
1853—1919
Obituary

HENRY WEIGHTMAN STELWAGON, M.D., 1853–1919

Henry Weightman Stelwagon, the son of Joseph and Margaretta (Duckett) Stelwagon, was born in Philadelphia, Dec. 3, 1853. He received his early education in the public schools of his native city and in the Salem Academy of New Jersey; later he entered Andalusia College, an institution near Philadelphia, from which he was graduated in 1872 with the degree of B.S. He immediately began the study of medicine in the medical college of the University of Pennsylvania from which he received the degrees of Ph.D. and M.D. in 1875. Following his graduation from the medical school he served a term as resident physician in the Philadelphia General Hospital, better known to Philadelphians and former interns as “Blockley.” On the completion of his term of service he went abroad to study his chosen specialty in the great clinics of Vienna and Berlin; in the former he was a pupil of Hebra, who was soon to finish his epoch-making career, and of Kaposi, then at the summit of his fame. After two years of study and observation under these great masters he returned to Philadelphia to begin a career which was to bring him so much distinction as a writer, teacher and practitioner in the field of cutaneous medicine. Shortly after his return from Europe he was appointed physician in charge of the service for skin diseases in the Northern Dispensary of Philadelphia, an institution with which he continued to be connected either actively or as consultant until his death. A little later he was placed in charge of the Philadelphia Dispensary for Skin Diseases, a position which he held for ten years. In 1885 he became instructor in dermatology in his alma mater, and chief of the Dispensary for Skin Diseases of the Hospital of the University of Pennsylvania, positions in which he continued for five years. During this period he did most of the teaching in dermatology in the medical school of the university, owing to the absence of Professor Duhring, whose health at this time and for some years after was capricious and uncertain. In 1888 he was elected clinical professor of dermatology in the Woman’s Medical College of Pennsylvania, a position which he held for nine years, resigning in 1907. In the same year he became dermatologist to the Philadelphia General Hospital, and on his resignation in 1915 he was appointed consulting dermatologist to the staff. In 1890 he resigned his instructorship in the Medical School of the University of Pennsyl-
vania and very shortly after was elected professor of dermatology in
the Jefferson Medical College of Philadelphia, a position which he
filled for many years with much distinction to himself and the school.
Unable to continue longer with his teaching because of failing health
he resigned this professorship in June, 1918.

Throughout his professional career he was a frequent and valued
contributor to dermatologic literature. In collaboration with Professor
Duhring he prepared a chapter on diseases of the skin for “Pepper’s
System of Medicine”; he was a contributor to Wilson’s “Applied
Therapeutics,” to Keating’s “Cyclopaedia of Diseases of Children,” to
Morrow’s “System of Dermatology,” to Hare’s “System of Thera-
peutics,” to Buck’s “Handbook of the Medical Sciences” and to
Sajou’s “Annual and Cyclopaedia of Practical Medicine.” In 1890 he
published his “Essentials of Diseases of the Skin,” a small book
intended especially for the use of students, which went through a
number of editions. In 1898 he translated and edited Mracek’s “Atlas
of Skin Diseases,” adding thereto a number of new portraits and some
text, increasing its usefulness thereby. His magnum opus, however,
was his treatise on “Diseases of the Skin” which first appeared in 1901,
and which has gone through eight editions. This work immediately
took high rank among the formal treatises on dermatology, a rank
which it still holds. In a review of the eighth edition, a well-known
English dermatologist said: “Stelwagon’s book is probably the most
comprehensive account of diseases of the skin in the English language
by a single author, and Dermatology is to be congratulated on its
possession and the author on its production.”

He was a member of the Philadelphia County Medical Society, of
the Pennsylvania State Medical Society, of the American Medical
Association, being Chairman of the Section of Cutaneous Medicine
and Surgery in 1901, of the American Dermatological Association, of
which he was the President in 1900, and a Fellow of the College of
Physicians of Philadelphia. In recognition of the distinguished posi-
tion which he had attained in dermatology, a number of foreign der-
matological societies had conferred honorary membership on him.
He was an honorary member of the Society of Dermatology and
Syphilology of Italy, associate member of the Society of Dermatology
and Syphilography of France, of the Vienna Dermatological Society
and of the Berlin Dermatological Society.

For two or three years before his death he had had repeated attacks
of angina pectoris, and it was this malady which eventually caused his
death. In the late afternoon of Oct. 18, 1919, after the close of office
hours, he was found dead, seated in his office chair. He had finished
the fight, he had kept the faith.
Dr. Stelwagon had a most agreeable personality; he was indeed a gentleman. In the many years of the writer's intimate association with him he never heard him say an unkind word to or about any one. He was of that steadily disappearing type of physician to whom the practice of medicine was a profession and not a business—he did not practice with Bradstreet and Dunn at his elbow. Those who knew him best loved him most, and his friends and the profession of medicine have suffered a great and irreparable loss in his too early death.

M. B. H.
Correspondence

"THE TYRANNY OF THE WASSERMANN TEST": A BENEVOLENT DESPOTISM*

To the Editor:—The torch-bearers of enlightenment, who condemned Copernicus, probably retired from judgment chamber to refectory with a satisfied inner glow at their well administered coup de grace. In passing we may muse on how Copernicus still lives, while his calumniators are forgotten, for the outstanding truth persists that the earth swings about the sun precisely as the martyred scientist intimated. The drama just sketched has been repeatedly enacted on the stage of human philosophy, and will, without doubt, continue to be with varying settings, so long as conclusions arise on feeble foundations.

Within the past few years it has become increasingly popular to anathematize the Wassermann test. The paper to which this article is a reply is a fair example of how this sport is conducted. It levels no new shaft, but since the field for this particular display of archery is The Journal of Cutaneous Diseases, the attack possesses a certain extrinsic force. For this reason alone, it is deemed necessary to counter, and may it here be stated, that though the protagonist believes that a scientific battle may be sharp, his weapons are not maliciously personal. If at times the argument should seem to be ad hominem, it is in spite of a desire to play cricket and because, in order to bring out definite points, it is necessary to select a specific article for analysis.

It is not intended to dedicate a panegyric to the Wassermann test, but to oppose the doctrine that it is tyrannous. Any tyranny connected with it is rather a reflection of that greater tyranny inherent in the limitations of human reasoning. Dr. Lisser postulates eight conclusions. The first, second and fifth are palpable. The other five are not, and it is proposed to illustrate what different inferences might have been drawn by the author of the paper under discussion from his own data. To simplify the structure of the present paper, the debatable conclusions will be employed as captions.

"The negative Wassermann means exactly nothing. (a) It does not prove the absence of syphilis, because negative tests occur in cases urgently requiring treatment. (b) Therefore it cannot denote a cure in treated cases."

As a matter of fact, the negative Wassermann test means a great deal. It means precisely one of three things: (1) that the patient is cured; (2) that the case is latent; (3) that because of some peculiarity in the infectious-protective mechanism, the test fails to be positive. It is infinitely simpler to assume that the test is worthless than to try to discover the explanations of its being negative in a given instance. So comfortable an assumption exemplifies the tyranny of human inertia.

The negative Wassermann test indicates that the patient is cured when, after adequate treatment and for a prolonged period—say for two years—it has remained negative. A serologic cure obviously is not to be assumed if, under the conditions just laid down, there is clinical activity. In other words,

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the trite fact is here reiterated that the Wassermann reaction is precisely one symptom of syphilis and nothing else, and its presence or absence has the same practical value as the presence or absence of any other one symptom of the disease. Suppose a patient presented himself with a gumma of the forearm which vanished under treatment, and a gumma of the hard palate appeared later. No one would state such an absurdity as “A healed gumma of the forearm means—exactly nothing: (a) It does not prove the absence of syphilis, because healed gummases occur in cases urgently requiring treatment; (b) therefore, it cannot denote a cure in treated cases.” And yet this exactly parallels Dr. Lisser’s third conclusion, and a gumma and a serologic test have the same practical, if not biologic, significance. But, if the patient’s gumma had been cured, and he never showed any other evidence of syphilis, including a negative Wassermann test, the disappearance of the gumma would indicate a cure. Does not the fading of the secondary eruption indicate a tendency to cure? Does not the disappearance of any single symptom or sign of the disease indicate such a tendency? It does. Then why does not a negative Wassermann test have the same significance, provided all controlling factors support the belief?

The negative Wassermann test may simply indicate latency. Is this astonishing? We are all sufficiently familiar with the fact that syphilis vacillates between periods of activity and quiescence. We see these remissions with and without treatment. The history of the ordinary gumma dramatically may prove this. Why then may not the negative Wassermann test prove latency? Why, indeed, may not all the symptoms of the disease, including the Wassermann test, vanish during latency? As a matter of fact, they do; and it is for this reason that no one regards a case as cured, except after critical and prolonged observation.

Lisser continues, in his third conclusion, “Therefore, it cannot denote a cure in treated cases.” Had Lisser said, “Therefore, it may not denote a cure,” there could have been no ground for debate. As a matter of fact, it may and can denote a cure. Prolonged observation—clinical and serologic—supplies the acid test. The entire literature on reinfection abundantly proves that it not only may, but can and often does, denote a cure. Admittedly, often, a negative Wassermann test is found in active syphilis. This is so in the early primary stage, at times in the tertiary stage, and particularly often in neurosyphilis. In the last group of diseases, the spinal fluid will usually supply the blood deficiency. Often, too, the test is absent in malignant syphilis. This furnishes some idea of what was meant when the writer stated that a negative Wassermann test in active syphilis might indicate a peculiarity in the infectious-protective mechanism. The test, as all other symptoms and signs of the disease, is related to the swerving balance between the protective agencies of the host and the aggressive agencies of the parasite. In cases of frank syphilis urgently requiring treatment, with a negative test, the lacking sign may be of first-rate significance as to the host’s inadequate powers of resistance. Would the negative test in such instances mean “exactly nothing?” Actually, it would appear to mean a great deal.

Dr. Lisser italicizes “If one patient having a negative test nevertheless requires active treatment, how can it follow that another one be cured because his test is negative?” It is long since any one has so contended. Dr. Lisser is tilting at windmills, and perhaps some Dulcinea is applauding. But he distorts the facts, which are that in certain groups of cases properly con-
trolled, the negative test does denote a cure; in others, equally well controlled, it denotes latency; in still others, it denotes neither, but a probable failure in the protective mechanism of the host. In short, the negative test never denotes “nothing,” but always indicates a problem to be solved, and no mean problem that dare be dismissed by an indolent negation.

Nor is it true that any syphilographer worthy of the name is ready “to build systems of treatment on the negative test.” He is willing to construct such systems on the vanishing of signs of syphilitic activity, and the negative test properly construed and interpreted is among these signs. As will be shown, it is a mighty subtle and valuable one.

“A positive Wassermann reaction means syphilis, but not necessarily active syphilis.”

It is impossible to agree with this in any respect. In the first place, the Wassermann test may be positive in nonsyphilitic diseases, notably yaws and nodular lepra. Let us ignore this, however, for these conditions are easily excluded. But the positive reaction in syphilis definitely means active syphilis. If, as Lisser correctly states, the phenomenon is a resistance reaction, it follows that there must be something to resist, a concept which, regarded either way, postulates activity. Thus Lisser is “hoist by his own petard.” It is not the reaction that is to be overcome, but its exciting agents—in other words, the parasite to which it denotes resistance. It is easy to agree with Lisser and Wile that the attempt to convert positive into negative Wassermann tests is “chasing a shadow;” provided the test is worshiped as a totem-pole Disregarding such scientific paganism (an example of the tyranny of idolatry) it is not the shadow we should pursue, but the substance of which this shadow is a distinct hint. The Wassermann test is the resistance shadow of the active process which is the resisted substance. If the substance is destroyed, the shadow will automatically disappear. Let the proper quarry then be pursued!

If the test may prove negative in active syphilis, and if Warthin’s observations, which are convincing beyond peradventure, hold, it is extremely doubtful whether syphilis can be pathologically actually cured. In view of this, by what oblique mental process can it be concluded that a positive reaction may be present in the cured individual? A reductio ad absurdum may be permitted. The Wassermann reaction is a resistance phenomenon. Thus there is something to resist. If this something were eliminated, the reaction would automatically disappear, but in spite of all therapeutic effects, this cannot invariably be consummated. It may possibly be wiser not to overcome the test, since there is nothing to overcome anyway, even though it does indicate resistance to a cause no longer extant. This vers libre is precisely what is embraced in the concept of a resistance reaction to a provocation that has ceased to be.

Dr. Lisser’s subterfuge that a positive test does not necessarily indicate active syphilis is remarkable. It may tax his ingenuity to illustrate the meaning of resistance to inaction. What is the nature of a resistance reaction to an inactive pathologic process? If the positive test indicates syphilis at all, it must, by Lisser’s own conception, mean active syphilis and no arbitrary subtleties can cloud the fact.

“Treatment should be entirely independent of the Wassermann reaction because negative Wassermann reactions sometimes occur prematurely during treatment, while positive Wassermann reactions frequently persist long after clinical cure.”
Discussion of this statement will depend on definitions of concepts and assumptions, before the conclusion itself may be approached. Precisely what is meant by the Wassermann test becoming "prematurely negative" is mysterious. If it is negative it means that, for the time being, perhaps even permanently, it is negative, because latency or cure has been effected, either in the natural course of the disease or therapeutically. It is safer to assume that very early in the disease the negative test indicates inactivity rather than cure, and to continue treatment. In an instance of this sort the inactivity may be practically interpreted as an encouraging tendency on the patient's part to withstand his infection. Perhaps Lisser has seen cases in which the test has become inactive, other objective evidences of the disease persisting, even under therapy. This would be strictly premature. But who would have the test performed under these hypothetical circumstances? Certainly no astute syphilographer. Thus, this hypothesis may be dismissed. And what is meant by "the positive Wassermann test being present long after a clinical cure"? What is a clinical cure? It is an illusory disappearance of signs detectable by the physician's senses. What physician would assert that this means anything? Lisser is assuming more than the combined experiences of the world's physicians would warrant, if he recognizes a cure simply because he can detect nothing by the crude methods of physical diagnosis. It is just here that a positive test is a control of unparalleled value.

Therefore, it is contended that the treatment should not be independent of the test, but in a large measure guided by it. For, as the test fades, a power becomes evident in the patient to respond to therapy, and if it persists, such power exists either not at all, or only in a restricted degree. In a clinician's judgment the test may be disregarded, but it may not be ignored, and the writer makes bold to assert that if he had syphilis he would continue to be treated as long as he exhibited a Wassermann reaction. He would "chase the shadow" until he got the substance. An extensive experience with syphilis leads the writer to assert that patients are not depressed by a positive reaction, and a similar experience with human nature justifies the view that a patient would be depressed by a sense of neglect on the part of the physician. Just what constitutes an "excess of treatment" is not quite clear, but granting that there may be such a thing, it would be a safer risk than under-treatment, even if the only guide were a persistent Wassermann reaction. If it is not excessive to treat early syphilis with a negative test for three or four years, at what point does the treatment become extravagant in a patient with an occult syphilis and a positive test? Perhaps Lisser will be able to specify this point. If treatment should be entirely independent of the test, and if, as a diagnostic sign it is totally unreliable—a conclusion inherent in Lisser's point of view—why does not Lisser say that the procedure is worthless? Why does he not discard the test entirely? It is for the reason that he does not think it is worthless, as he indicates, and that he would not dare to try to dispense with it.

"Once the diagnosis of syphilis is positively established, the fewer Wassermann tests done the better, both for the peace of mind of the patient and the physician."

This statement needs a certain amount of deciphering. The phrase "When the diagnosis of syphilis is positively established" leaves the mind uncertain as to whether Lisser includes the test among his diagnostic factors. If he does not so include the test, many of his diagnoses must be open to criticism, or we more modest syphilographers are franker in confessing our clinical limita-
tions. If he is willing to make his diagnosis without recourse to serologic aid, his opinion as to what is and what is not syphilis would be so unsubstantial as to throw out the value of his views with regard to the consistencies and inconsistencies of the test. If he admits the value of the test up to the moment that a diagnosis is "positively established," at what moment thereafter does the test lose its diagnostic worth?

If Lisser can indicate no such period, precisely what number of tests should be done? In other words, what is the significance of the phrase "the fewer Wassermann tests done the better"? What, indeed is the reasonable minimum—one test a month, one a year, one a decade? In what relation to symptoms or to treatment? Precisely how is the peace of mind of the patient subserved by this vague—"the fewer the better"? Will the patient be satisfied with the physician's admonition to go along happily because his medical advisor intuitively senses a cure? As a matter of fact, it is better for a patient to realize the unpleasant certainty of a positive test than to be in suspense. A tyro in psychology would understand the greater repose inherent even in bad news that is positive, than in the alleged tranquility of unsupported optimism.

The peace of mind of the physician might be enhanced by ignoring the test, for a subtle source of disquietude would be removed. This lulling security would have the philosophic value accruing to the ostrich who buries his head, and by blotting out the world to his vision concludes that the world has ceased to be. When this species of defense fails the ostrich, he resorts to his next great weapon—speed a-foot. By courting "peace of mind" the physician would either evade or escape his problem, according to the expediency of shutting it out or fleeing from it. But the fact remains that the Wassermann test exists, and is to be regarded in syphilis as of the same first-rate importance as any other sign of the disease. Would Lisser disregard a recurrent gumma "both for the peace of mind of the patient and the physician"?

This concludes the analysis of Lisser's summing up. Lest it be thought that the present paper is too blind an endorsement of the Wassermann test, the writer will add a few remarks indicating what appear to him to be its liabilities and assets. The liabilities are numerous. Some are avoidable, others not. The avoidable ones are due to carelessness, or improper training on the part of the serologist. If the warnings and strictures of such writers as Kolmer and Ottenberg were heeded, purely technical faults would be largely overcome.

The unavoidable sources of error are more numerous and subtle. Impurities in the glassware, time and method of incubation, nature of antigen, dilution of complement, are factors indicating elusive phases of the technic that have been pointed out in the works of the two serologists already mentioned. Nor is the test in a restricted sense specific, for it is not spirochetes that are employed as antigen. Thus, the phenomenon must be defined as a nonspecific complement fixation test usually indicating active syphilis, provided certain other diseases have been ruled out. It is understood that it may normally be negative in the early initial period, and during any period of latency throughout the disease. With these exceptions, a positive test indicates active syphilis, and a negative test, cured or latent syphilis. It must further be reemphasized that it may be negative in malignant syphilis, neurosyphilis and at times in tertiary syphilis.

In these apparent contradictions lie the limitations of the procedure. In active syphilis there may be no evidence of the disease, except the positive test. The physician is thus confronted with the task of determining the
seat of the malady. If a careful physical examination reveals no changes in the heart, vessels, kidneys, liver, alimentary tract, bones, or nervous system, it is difficult to translate the evident facts of an active process into terms of diagnosis, prognosis and treatment. Conservatism requires, however, that treatment be given indefinitely to forestall future injury to the patient. The object is not the paltry endeavor to render the test negative, purely a pursuit of shadows, but to prevent greater inroads on the host by the parasite.

The negative test indicates, as repeatedly stated, cure, latency, a stage of the malady too early for serologic recognition, or a total absence of the disease. Which of these obtains in a given case is again a problem involving nice discrimination. A cure may be assumed if the test is negative, and if other objective evidence of the disease is wanting after adequate treatment over a number of years, and after prolonged subsequent observation and control without treatment. Latency may be assumed if the test is negative early in the disease, and here, regardless of the negative test, treatment should be continued. There can be no confusion caused by a negative test in the primary stage, for the dark field comes to the rescue. Absence of syphilis may be assumed if the test is negative, and if there are neither history, symptoms, nor signs of the disease. Deficiency in immunization explains the negative test in malignant and tertiary syphilis.

What has so greatly obscured the issue has been a wide tendency to make synonyms of the Wassermann test and syphilis. The reaction is actually but one sign of the disease, and the numerous attributes of the Wassermann test are subject to the same influences and have the same diagnostic and therapeutic value as any other single, objective feature of the malady. If this were only understood, many of the apparent inconsistencies of the reaction would be eliminated. Finally, then, it may be permitted to paraphrase Lissner's conclusions as follows:

1. A positive Wassermann test is undoubtedly evidence of active syphilis, yaws and nodular lepra having been excluded.

2. Since it constitutes such evidence, it is a subtler sign of the disease than the ordinary objective phenomenon. Not all lesions, however, associated with the positive test are syphilitic. Thus, a syphilitic with gastric carcinoma, corns, acute lobar pneumonia, beriberi, cerebrospinal meningitis, scabies, lupus vulgaris or any of the acute exanthemata, et cetera, would give a positive reaction, but these conditions would not be syphilitic. Mastering such facts, and not railing at them, is the test of a true syphilographer.

3. The negative test means: (a) absence of the disease, (b) latency, (c) recovery, (d) a period too early in the initial stage for the formation of antibodies, (e) deficiency in immunization. It is for the syphilographer to make a proper interpretation.

4. It is a resistance reaction; hence, it indicates active syphilis.

5. Regardless of a negative or positive reaction, a patient should be treated adequately for syphilis, according to the state of the disease and the age of the patient. The younger the patient, the longer should the treatment be continued, because of the greater number of years ahead of him in which the sequels of the disease may develop. This is a fine phase of syphilitography too little understood.

6. Treatment should be guided by the Wassermann reaction, but should not be prejudicially influenced by optimism at its too early conversion to a negative reaction. There is no clinical cure without a serologic cure, for the test is one of the important signs of the disease.
7. When the diagnosis of syphilis has been established, enough Wassermann tests should be performed to serve as an aid to the physician in his management and views of the case. This will subserve his conscientious efforts, and he will not be misled into a sense of false security by evading an unpleasantly subtle reminder of his therapeutic limitations.

8. The Wassermann test should be employed as an adjuvant to clinical judgment, which is synonymous with common sense.

9. Thus viewed, the Wassermann test will be divested of its fancied tyranny and become a docile servitor of the syphilologist.

WALTER JAMES HIGHMAN, M.D., New York.

"URTICARIA PROBABLY DUE TO SYPHILIS"

To the Editor:—I have read with interest Dr. Lester Hollander's article on "Urticaria Probably Due to Syphilis," which appeared in the January number of the Archives. The author says that "in the present literature no pruriginous lesions have as yet been attributed to syphilis." I would refer him to two valuable contributions by Hazen, one published in The Journal of the American Medical Association 67:1650, 1916; the other in The American Journal of Syphilis 1:750, 1917. Reference to the complication may also be found in Hazen: Syphilis, The C. V. Mosby Co., St. Louis, 1919, p. 155. In a series of 100 cases, Hazen found the Wassermann reaction positive in 33 per cent., and in every instance antisyphilitic treatment was followed by the disappearance of the urticaria. During the past two years, I have made it a point to subject every case of persistent urticaria to a serum test, and while I have no available statistics, it is extraordinary how many of these patients suffer from syphilis.

RICHARD L. SUTTON.
Abstracts from Current Literature

THE TREATMENT OF LUPUS VULGARIS. Robert W. McKenna,
Lancet 2:917 (Nov.) 1919.

Successful treatment, McKenna believes, depends on knowing what cases
to treat. An isolated quiescent patch of lupus which has existed for years
without tendency to spread should not be attacked. A patch of lupus in active
evolution should receive treatment, as active treatment may stimulate the
morbid process. Application of lead and spirit lotion, or a varnish of ichthyol
and water in equal parts, or starch and boric poultries frequently changed,
often cause active manifestations to subside. Quiescent lupus may be dealt
with by (1) excision, (2) chemical agents, (3) curetting and scarification,
(4) refrigeration, (5) electrotherapeutics, (6) treatment by ionization, (7)
electrocautery, (8) tuberculin and (9) arsphenamin.

(1) Excision is the method of choice in dealing with an isolated patch of
lupus, not too extensive to allow excision without undue disfigurement. The
author employed this method in treating a girl, aged 5, with a patch of lupus
the size of a sixpence on the right cheek over the inferior maxilla. When he
saw the patient, seventeen and one-half years later, she was a robust young
woman, and the scar was almost invisible.

(2) Local application of caustic agents in some cases give excellent results.
Of these agents the author believes pyrogallic acid is the best, applied in the
form of a 5 to 10 per cent. ointment, i.e., 24 to 48 grains to the ounce. A
base of equal parts of lanolin and petrolatum supplies a sufficiently adhesive
unguent. The ointment should be spread on lint, using a weaker strength for
children. In a few days the acid begins to break down the lupus patch and an
ulcerating surface appears. The dressing should be changed night and
morning and continued as long as the patient can tolerate it. In case of
severe pain the application should be discontinued and the ulcer dressed with
starch and boric poultries. When the epithelium has been restored over the
tuberculous tissue, pyrogallic acid should again be applied and the patch
again broken down. When this process has been repeated several times, a
large portion of lupus tissue will have been destroyed. Isolated nodules
remaining may be destroyed by boring into them the solid nitrate of silver
stick. Arsenic and salicylic acid may also be used in this method of treatment.

(3) Results of curetting are much improved if linear scarification also is
used. This should be done with a scarifier; the author prefers one with six
very sharp blades. The operation is begun on healthy skin, just outside the
lupus patch. Tuberculous tissue is then scarified first in one direction and
then in another, crossing and recrossing until the whole is reduced to a pulp.
The first series of cuts should be vertical, the next horizontal, the next
diagonal from left to right and the next diagonal from right to left. The
process should be repeated several times. Bleeding may be controlled by
pressure. After scarification is completed the part is dressed with 2 grains
ichthyol, 1 ounce petrolatum or a dressing of unguentum glycerini plumbi
subacetatis may be applied. The process should be repeated thoroughly every
fourteen days. It gives rapid and excellent results.
(4) Lupus may also be refrigerated with carbon dioxide snow. Firm pressure for from one and one-half to two minutes with a molded piece of carbon dioxide snow a little larger than the patch to be treated causes a deep slough. If after the wound has healed an infiltrated mass remains, the process may be repeated. If only nodules are left they may be destroyed individually, with a solid silver nitrate stick or by ionization with zinc. This method is especially effective in a lesion on the cheek, when the lesion is single and not too extensive and when it is hypertrophic in type. Caution should be observed in using this method in the elderly and the undernourished.

(5) Use of the roentgen ray in the treatment of lupus should be limited to ulcerated cases or the chronically thickened cases to produce thinning of the patch. Indiscriminate use often causes epithelioma. The author rarely applies the roentgen ray except through a layer of boiler felt, allowing only the harder rays to penetrate to the corium in which the tuberculous disease lies. He prefers to give a third of a pastille dose through felt, fortnightly, and rarely administers more than two full pastille doses. Safer and equally effective methods have been devised so that the roentgen ray should be used with great discrimination. Ultra-violet rays are safer. The most useful method of applying these is with the mercury-vapor lamp devised by Kromayer, and the best results are obtained, according to the author, by somewhat diffuse radiation of the affected part. He covers the adjacent skin with lead-foil leaving a border of sound skin about one-quarter inch uncovered around the lupus patch, exposing the diseased and sound skin to the rays of the lamp—which are 3 inches from the part treated—usually for ten minutes in adults and about seven in children. The results are excellent. Recently the author has used an electric lamp with electrodes of pure tungsten, applying the rays in the same manner as those of the mercury-vapor lamp. A larger surface may be treated by placing the lamp at such a distance from the part to be treated that the entire surface is irradiated. Satisfactory results have been obtained.

(6) Ionization with zinc salts is most effective in the destruction of scattered nodules of lupus tissue. Success depends on technic. The author rubs the lupus patch with a pledget of absorbent cotton soaked in liquor potassi hydroxidi (liquor potassae), denuding the nodules of their epithelial covering, which allows the ions to enter readily the moist, broken surface. The alkali is then removed by wiping the part with a little distilled water. Two thicknesses of lint soaked in 2 per cent. zinc chlorid solution or in a 10 per cent. solution of zinc sulphate is laid over the patch and an electrode of pure metallic zinc attached to the positive pole of the battery is applied with firm pressure. The indifferent electrode is applied to any convenient part of the body. A current of 2 or 3 milliamperes per square centimeter of area treated is applied for ten, fifteen or twenty minutes, according to the extent of the disease and tolerance of the patient. The treatment leaves the nodules dry and glazed surrounded by a whitish collar of coagulated albumin. A dressing of detergent lotion or a simple ointment may then be used. Reaction subsides in a week and the treatment may be repeated at two week intervals. The nodules disappear rapidly. This method is particularly useful in removing nodules left after roentgen ray or mercury-vapor lamp treatment. It may also be used in any form of lupus vulgaris, and in ulcerating lupus it may be used alternately with roentgen rays. It is also effective in treating lupus of the mucous membrane of the nose.
(7) McKenna believes that the best method for treating lupus of the mucous membranes of the nose or mouth is by cautery with the electrocautery. The cautery point is applied to the center of the affected part, the switch in the cautery handle is closed and the part cauterized. The aim is to char slowly and not to burn quickly. The most effective method is to make a series of punctures all over the affected mucosa at short distances from each other. There should be no bleeding. As the tubercle bacillus gains access to the skin of the face through the nose, tuberculous conditions in the mucous membrane must be eradicated before the face can be completely cured.

(8) In the author's experience tuberculin has been unsatisfactory, improvement being only temporary.

(9) McKenna has not tried the arsphenamin treatment, but says as observed in treatment by others, the benefit seems to have been transient.

In choosing a method for treating lupus two things should be kept in mind: (1) the complete eradication of the disease, and (2) avoidance of undue scarring. Good results are most often secured by a judicious blending of varying application or procedures.

M. P.


A case is reported by Nordmann in which it was difficult to state positively whether it was one of syphilis par conception or syphilis d'emblée. A man, aged 25 years, with family and personal history negative for syphilis, June, 1910, suddenly developed what appeared to be a soft chancre, but which proved to be a mixed chancre. The ulcer was treated with pure phenol and antiseptic powders, but it failed to heal, and its edges became indurated and infiltrated. After seven weeks, when the ulcer had healed by cicatrization, there appeared a diffuse, maculo-papulo-squamous exanthem, with the characteristics of a secondary syphilis eruption, accompanied by enlargement of the lymph nodes but without involvement of the mucous membranes. The patient was treated by injections of mercury salicylate and arsphenamin, in the usual doses and according to accepted methods, from August, 1910, to September, 1911, with a favorable result. All the symptoms of syphilis disappeared and there were no untoward complications or untoward effects from the medication employed. The Wassermann reaction was positive at the commencement of the treatment on four different occasions. October, 1910, the reaction was feebly positive; April, 1911, and September, 1911, it was absolutely negative. It still was negative in January, 1912.

There seemed to be no reason why the patient should subject himself to further treatment as he felt entirely well. Contrary to the advice of his physician, he married, two and one-half years after the first appearance of his infection. Both he and his wife, a young woman, aged 21 years, remained well. She became pregnant, and in due time gave birth to a healthy, well developed boy. The placenta appeared to be normal in every respect. The mother nursed the baby for six weeks; then artificial feeding with cow's milk was resorted to. The baby thrived and was well. A Wassermann test of the baby was not permitted. The genitalia of the mother were examined from time to time, but nothing suspicious was found. Suddenly, in January, 1917, she developed a maculopapular exanthem on the entire body surface, the diagnosis of which was not in doubt for a moment because of its characteristic appearance of secondary syphilis. No other symptoms could be found. The
blood Wassermann was positive. The eruption rapidly disappeared under specific treatment. The husband’s blood Wassermann was negative. Neither the father, mother or baby has had any other illness up to the present time.

In discussing the case, Nordmann expresses the opinion that the probability of direct infection of the wife by the husband is out of question. Is it possible that this might be a case of syphilis par conception, the mother having become infected by the child in utero and that the infection had remained latent until five years after the birth of the child? It must be borne in mind, however, that the child had remained well, not manifesting any symptoms of syphilis; nevertheless, it is well known that hereditary syphilis often does not manifest itself until later in the life of the child, and cases have been recorded in which the child was not syphilitic in spite of the fact that both the father and the mother were syphilitic. On the other hand, Nordmann says, this might have been a case of syphilis par conception tardive and syphilis héréditaire tardive. The most weighty argument against such an idea is the fact that the manifestations of this form of syphilis are tertiary and not secondary; hence, in the absence of primary and secondary symptoms, it is termed tertiarisme d'emblee. Of course, syphilis secondaire tardive is a definite entity, but syphilis secondaire tardive par conception has not as yet been observed. Further, if this was a case of syphilis d'emblee it was a spurious (spuria) and not a true case. Verchère believed that the infection in such cases occurred through or was carried into the uterus by the spermatozoa but without pregnancy being present. He termed this condition syphilis par impregnation. In Nordmann’s case, however, the husband was free from symptoms and his Wassermann reaction was negative during his wife’s illness.

In support of the theory of Verchère it might be said that the syphilis virus has a special affinity for the testicular tissues and that it could remain active for a long time. A more definite knowledge of spermatic infection probably would clear up many of these mooted points. Finally, the question of extramarital infection had to be considered and evidence to support this supposition was at hand, but, according to Colle’s law, the mothers of syphilitic children are immune to a new infection. The case, on the whole, furnishes ground for much speculation as to its probable nature, and the fact that the mother instituted court proceedings against the father served to complicate matters still more. She was convinced that she had contracted the disease from her husband; she claimed that she had been injured by his failure to confide in her before marriage as to his condition; therefore she felt that she was entitled to a divorce and heavy damages. The husband’s claim that it was a case of extramarital infection, and that the existence of such a relationship on the part of the wife had prompted her to ask for the divorce. And the husband’s blood gave a negative Wassermann reaction seven and one-half years after the original infection! The legal aspects of the case and the basis of the charges as affected by the findings in the case are discussed at length.

F. C. Z.


The author classifies the various tests using human complement, according to the principles involved, and conducts his study for the following purposes:
1. To compare human with guinea-pig complement in the serum diagnosis of syphilis from the standpoints of general adaptability, specificity and delicacy and disregarding for the present the question of economy, convenience and simplicity of technic.

2. To study the advantages and disadvantages inherent in the test employing human complement.

The authors' summary follows:

1. Tests for the serum diagnosis of syphilis employing human complement have been divided into three classes: (a) those employing the complement of each serum with immune antihuman or antisheep hemolysins; (b) those using the serum of a nonsyphilitic person for complement as a substitute for guinea-pig complement, and (e) those utilizing the complement and certain natural hemolysins in each serum.

2. Studies with tests representing these three classes have shown that at least from 2 to 10 per cent. of human serums do not contain sufficient complement, natural hemolysin or both for the conduct of these special tests.

3. Comparative studies employing tests representing these three classes and the Wassermann test, showed that the results agreed with from 86 to 92 per cent. of serums, the same antigen being employed in all tests.

4. The special tests employing human complement yielded a higher percentage of positive reactions than the Wassermann test; the majority of these results were correct and indicative of superior delicacy.

5. Tests utilizing the complement of each serum are capable of yielding falsely positive reactions with the serums of nonsyphilitic persons, and particularly with crude alcoholic extracts of tissues for antigen. Extracts of acetone insoluble lipoids were found best for tests of this character.

6. Tests utilizing the complement of each serum are likewise capable of yielding falsely negative results with the serums of syphilitic persons giving positive Wassermann reactions, which is ascribed to the lack of fixability by the complements of these particular serums.

7. Antigens used in these special tests should be titrated with human instead of guinea-pig complement.

8. Human complement is not as satisfactory as guinea-pig complement for the conduct of tests employing heated serum and spinal fluid.

9. The advantages of tests employing human complement are: 1. The tests are more delicate. 2. Guinea-pigs are not required. 3. Sheep are not required if an antihuman system is employed. The disadvantages are: 1. Falsely positive reactions may occur. 2. Falsely negative reactions may occur. 3. The serums must be fresh. 4. The tests are unsatisfactory with heated serums and spinal fluid. 5. Complement, natural hemolysin or both may be absent from the serums. 6. Isoagglutinins may interfere in tests employing an antihuman hemolytic system.

10. Of the special tests placed in the first class, that of Thompson, and of those placed in the third class, that of Bartlett and O'Shansky, proved most reliable.

11. Because of the disadvantages inherent in those tests employing human complement in a standardized Wassermann test human complement cannot be utilized; on the other hand, a standardized test must aspire to the delicacy of these special tests in order to prove as sensitive as is possible with specificity.

Tomlinson, Omaha.

The assumption that every persistent white patch on the buccal mucosa is a leukoplakia of syphilitic origin, likely to degenerate into cancer, leads to many errors, Fernet finds. That syphilis should be considered and excluded, he admits, but every leukoplakia is not syphilitic. There are other affections of the buccal mucosa that present much the same appearance as a leukoplakia. A superficial examination will sometimes result in diagnosing as buccal leukoplakia erosive or papulo-erosive syphilis, which usually develop more rapidly than a leukoplakia and have a yellowish tinge. Even aphthae are sometimes misleading. A leukoplakia may be confused with exfoliative glossitis and the affection described by Brocq as superficial glossostomatitis, which is accompanied by persistent desquamation of the lips and is characterized by an opalescent appearance of the mucosa. Also the pale, desquamative condition of the mucosa seen occasionally in certain forms of pruritus and the lichenification of the mucosa described by Brocq may lead one astray. The foregoing conditions are easily recognizable, but the diagnosis becomes more difficult in syphilitic lingual sclerosis. Leukoplakia is a lingual sclerosis, but it is superficial, cutaneous sclerosis. The tongue is not swollen and deeply indurated as in the genuine lingual sclerosis. Sometimes, however, the two conditions are combined (the syphiloleukokeratosic glossitis of Fournier). The form of leukoplakia characterized by a thick coat, exfoliations, papillary hypertrophies, and especially by fissures and slight ulcerations is the kind that is likely to develop into an epithelioma. In the beginning the epithelioma may appear like a hard and circumscribed cherry pit, adjacent to the leukoplakia, but more often it starts from a papillomatous papule with an indurated base. In the presence of lesions that lead one to suspect the existence of an epithelioma, a bioptic and histologic examination should be promptly made. If cancer is diagnosed, surgical extirpation should be carried out.

H. R. W.

THE AVOIDANCE OF UNTOWARD RESULTS FOLLOWING ARS-PHENAMIN ADMINISTRATION. Carl Stern, Deutsch. med. Wchnschr. 45:1127 (Oct. 9) 1919.

This article contains nothing new. The author finds the usual complications and makes some of the usual recommendations for avoiding them.

Senear, Chicago.


Browning and Kennaway discuss the need of the complement fixation test in syphilis—a disease often free from diagnostic clinical manifestations. They regard the Wassermann reaction as having steadily acquired a reputation as the most constant and reliable manifestation of syphilis, but the method of the test and the significance of the results derived from it having been the subject of adverse criticism, they offer an examination of the subject from these standpoints.

In considering the method, they emphasize the necessity of intimate and intelligent collaboration on the part of clinical and laboratory workers, in order that ignorance of the fallacies of this test may not lead to blind reliance on incorrect results, or ignorance of the inherent limitations to an unreason-
ing prejudice against it. The significance of "borderline" reactions, the variation in activity of different complements and antigens, and the lack of a standard method of performing the test are discussed.

In considering the diagnostic value of the test they offer statistics to show its reliability when performed by experienced workers. They state that, when the reaction is used for diagnosis, it is better to err on the side of a smaller yield of positives, but that the reverse is true when employing it as a therapeutic guide. They also advocate the practice of making a routine Wassermann test in every patient regardless of the condition for which he seeks treatment.

**Senear, Chicago.**


Preserved guinea-pig and human complements were tested fresh and at varying intervals for the following values: (1) Hemolytic activity in an antisheep system; (2) fixability in mixtures of syphilitic serums and various organ extracts (antigens); (3) susceptibility to nonspecific fixation by serum and organ extracts alone. In the majority of the tests mixed complements of six or more persons or two or more guinea-pigs were used. All preserved complements were kept at a temperature of from 4 to 9 C. Other elements of the hemolytic system were standardized.

The authors' conclusions follow:

1. Since a mixture of complements should be used in conducting Wassermann tests owing to variation in fixability of individual complements, a method for preserving complement constitutes a procedure of convenience and economic importance.

2. In judging the merits of preserved complement at least three values should be determined, namely, hemolytic activity, fixability by mixtures of syphilitic serum and extract and susceptibility to nonspecific fixation or the anticomplementary influences of serum and extract.

3. Changes in fixability and particularly increased hypersensitiveness to nonspecific fixation are probably more important criteria than changes in hemolytic activity.

4. Preserved human complement develops hypersensitiveness to nonspecific fixation more rapidly than guinea-pig complement.

5. The temperature at which complement serums are kept exerts a marked influence; preserved complements should be kept as near the freezing point as possible and not above 4 C.

6. Of the sixteen methods studied in this investigation preservation with sodium chlorid at a low temperature yielded the best results.

**Tomlinson, Omaha.**


Early diagnosis of cancer of the tongue, Ferrand states, presupposes a knowledge of its onset. The cancer must be recognized not only when it appears as a primary lesion on an apparently normal mucosa, but also when it is implanted secondarily in a preexisting lesion (e. g., a leukoplakia or a sclerogummatous glossitis). In the case of a suspicious lesion, a diagnosis should be made before it takes on the undoubted aspects of a neoplasm. The anamnesis must be scrutinized. The conditions under which the lesion appeared
must be weighed, and its previous duration is significant. A careful analysis of the objective symptoms will, of course, be made. By these means a high degree of probability may be reached, but a sure and rapid diagnosis is best secured, Ferrand thinks, by a biopic, histologic examination. However, if the case is complicated by syphilis, atypical tuberculosis, or various tumors, the histologic examination may not result in a certain diagnosis. In such cases other means of investigation must be resorted to. The histologic test will at least decide whether an epithelioma is present, which will aid in outlining treatment. Cancer of the tongue is usually a spinocellular epithelioma, in which case surgical intervention is alone justiciable. Basocellular lingual cancers, occurring occasionally, may be treated by cauterization, radium or roentgen rays. If papillary epitheliomas are not recognized when they first spread over the surface, during which period surgical intervention is relatively simple and usually permanently effective, the deeper tissues and the lymphatic ducts may soon be invaded, which will necessitate an extensive operation, the outcome of which is at least problematic.

H. R. W.


Fleischner, Meyer and Shaw review some of the work done in the study of cutaneous hypersensitiveness, and relate further experiments which they have carried out. They apparently establish the fact that in guinea-pigs cutaneous hypersensitiveness is always a sign of infection and never a sign of immunity. They also show that in no other way than by the introduction of bacilli and the consequent production of foci has anybody thus far succeeded in sensitizing a guinea-pig's skin. The mere injection of protein, soluble or insoluble, will not produce skin sensitiveness, but will render the animal anaphylactically sensitive.

Among other conclusions are given the facts that hypersensitiveness in guinea-pigs inoculated with certain bacilli is only positive in the presence of infection, that after intravenous injections of living typhoid bacilli, temporary cutaneous hypersensitiveness can be produced frequently, that guinea-pigs showing a high grade of acquired immunity to an organism will never give specific positive cutaneous hypersensitiveness, and that bacterial proteins which sensitize a guinea-pig in an anaphylactic sense will not sensitize its skin.

Senear, Chicago.

SYPHILIS AMONG THE INSANE WITH SPECIAL REFERENCE TO THE HECHT-WEINBERG-GRADWOHL TEST. Thomas B. Christian, p. 613.


This article contains a discussion of the pathologic changes in the liver when that organ is involved in early syphilis, concluded by the author as follows:

1. Jaundice occurring during early syphilis is of two types:
   (a) Syphilitic, in which the jaundice may appear before treatment or may be provoked by the Herxheimer reaction, appearing within the first three weeks after the first injection of the arsenical preparation. Pathologically this condition is a diffuse degeneration of the liver cells produced by the toxic action of the Spirocheta pallida.
(b) Combined syphilitic and arsenical, appearing after the fourth injection of the drug. The pathology of this condition is the same as that of the preceding group. The causative factor is, primarily a syphilitic degeneration of the cells on which is superimposed the toxic effect of the arsenic.

2. Jaundice due to the combined action of syphilis and arsenic is not an obstructive jaundice, but is characterized by a diffuse degeneration of the liver cells.

3. Every case of syphilis, whatever the stage, should be carefully examined for any previous or present condition that would produce a damaged liver, and such cases should be treated with the greatest care in order to prevent the occurrence of jaundice.

4. Every case of syphilis under treatment should be carefully observed for any reaction following each injection of the arsenical compound. The taste or the smell of the drug during or after the injection is an important sign of early intolerance.

Tomlinson, Omaha.


Sequeira and Western state that in active immunization the lesion should be accessible to the body fluids, and to any immunizing substance circulating in these fluids. A carbuncle or deeply seated furuncle is in such a position, but an acne lesion, being anatomically outside the body, is inaccessible to immunizing substances. They then enumerate their experiences with vaccine in different conditions. In staphylococcal infection the most striking successes have been attained in the treatment of deep seated furuncle and carbuncle, while in folliculitis and sycoasis the authors have been less fortunate. Erysipelas has often responded strikingly, as have certain mixed infections. Lupus vulgaris of a dry type has not been successfully treated by vaccine, but ulcerative lupus and scrofuloderma have proved much more amenable, while tuberculids have not reacted satisfactorily. Gonorrhoeal keratoderma has shown remarkable improvement under vaccinations. In acne vulgaris, in which condition vaccines are perhaps most widely used, good results are not often obtained, and the same is true in acne rosacea.

Senear, Chicago.


The author concludes from his investigations that the nervous system is involved in all cases of syphilis during the stage of spirochetemía, but does not react in all cases. This has been proved by the finding of the parasite in the spinal fluid of cases which show no other abnormality. The clinical cases of neurosyphilis, together with a review of the literature and case histories, are given.

Neurorecidives and the Herxheimer reaction are explained, the former being considered an expression of the latter. A Herxheimer reaction is considered prognostically bad and should be avoided.

The harmfulness of insufficient and exclusive use of arsphenamin is pointed out.

Ten per cent. of cases show conspicuous fluid changes. This corresponds with the number developing neurosyphilis.

Tomlinson, Omaha.

Attention is called to the lack of recognition of the prevalence of inherited syphilis and its potency in producing disabilities.

A series of 226 cases is reported, all of which presented some evidence of inherited taint. A study of the series demonstrates that chronic articular lesions due to either syphilis or tuberculosis present the same clinical picture.

A therapeutic test is the most reliable proof of the nature of the trouble.

Tomlinson, Omaha.


Small describes an interesting method of treatment for lupus erythematosus, which has long been in use in the Edinburgh Dispensary for Diseases of the Skin: After washing with ether, the part to be treated is allowed to dry. A mixture of liquid phenol (carbolic acid), one part and acid lactic fortior, four parts is then vigorously rubbed over it by means of a glass rod, the rubbing being continued until practically dry.

A slight inflammatory reaction usually follows immediately, and in a few days desquamation takes place, leaving a pinkish, relatively healthy area. Further applications may be made when exfoliation is completed and the inflammatory reaction has subsided, but an interval of at least a week should elapse. Too frequent applications may lead to ulceration. The method is best suited for chronic, rather superficial cases, but it may also be used in cases where induration is more extensive, and in acute cases after calamine lotion has been used for a week or two to reduce the inflammation.

Small claims for the method several advantages—ease of application, relative painlessness, and highly satisfactory results.

Senear, Chicago.


The report is based on 2,925 Wassermann reactions done according to routine on all medical cases admitted to Barnes Hospital and medical clinics of Washington University dispensary during the year 1918.

The patients were divided into four groups: 1. Private pavilion patients—the well-to-do class. 2. Pay ward patients—the middle class. 3. Free ward patients—the lower (white) class. 4. Colored patients.

An abstract of the authors’ conclusions follows:

The evidence of syphilis as shown by the Wassermann reactions was twice as high in group 2 as in group 1, three times as high in group 3 as in group 1 and six times as high in group 4 as in group 1. Fifteen per cent. of cases with positive Wassermann reactions gave no clinical evidence of the disease.

Tomlinson, Omaha.


Handley states that in 1904 he had concluded that in Paget’s disease of the nipple the cutaneous changes were due to lymphatic obstruction of cancer cells.
i. e., that carcinoma of the breast preceded the surface change, instead of occurring as a result of carcinomatous degeneration of the epidermis. Study of several cases since that time has only served to convince him that his earlier theory was correct. A number of excellent microphotographs are offered in support of his contention. He conceded that it is possible that the same cutaneous change in the nipple might be consecutive to inflammatory changes rather than to carcinoma, but that this form of chronic inflammation is a very dangerous condition which almost invariably leads to carcinoma. He concludes that early and complete removal of the breast is therefore demanded whatever the view adopted as to the order in time of the eczema and the carcinoma.

SENEAR, Chicago.


The records of the Wassermann test in forty-three women before and after a course of intensive treatment with neodiarsenol showed the following results of treatment:
Forty-four per cent. of the tests were reduced to negative; 44 per cent. were not reduced at all; 12 per cent. were slightly reduced.
The treatment consisted in giving 180 cg. of the drug in a forty-eight hour period. This was divided into three doses: the first dose consisted of 45 cg.; the second dose of 60 cg., and the third dose of 75 cg.

TOMLINSON, Omaha.


Adamson recalls Wright's early claims for vaccines as a method of cure by stimulating the body to produce protective substances, and states that Wright has apparently modified his earlier opinion, as he recently stated that the prophylactic employment of vaccines is the best method of using them.
Adamson feels that prophylactic vaccination has long been firmly established, but that the efficacy of vaccinations as a curative agent is still open to doubt. His experience in the vaccine treatment of sythesis, acne, and other chronic staphylococcal infections has been distinctly disappointing, but in recent cases of furunculosis results have been much more encouraging.

SENEAR, Chicago.


Our limitations in fundamental knowledge are responsible for the numerous different plans of treatment followed by different workers.
Hazen believes that arsphenamin given at 72 hour intervals eliminates the danger of late reactions. Two courses of treatment, each consisting of four injections of arsphenamin and a month of mercury injections will usually accomplish the desired results.

TOMLINSON, Omaha.


Whitfield states that some cases treated with vaccines have been very favorably influenced, while many have shown no such influence. He cites some
pitfalls which may be encountered through overenthusiasm, ignorance or carelessness, and then discusses some rules for guidance in the less obvious cases. In impetigo resistant to the usual simple means of treatment, he feels that inoculation has been of value. In furunculosis, a condition apparently chronic, but really due to repeated acute lesions, good results are obtained with vaccine if one takes care to remove other concomitant causes. He has had satisfactory results in generalized cases in particular, but regards the majority of cases of furunculosis as suitable for vaccine treatment.

Senear, Chicago.


The four fatalities here described came under the group of reactions which appear from twenty-four hours to three days following the administration of arsphenamin and which are probably due to impurities in the drug. The case histories and necropsy findings are given.

Tomlinson, Omaha.


Cockayne reports three cases in which striae atrophicae developed following influenzal pneumonia, none of the patients exhibiting undue fat or having edema during their illness. The thoracic or lumbar regions were the sites involved. He also cites a number of other reported cases in which striae atrophicae developed without stretching of the skin, and thinks that the development is due to (1) inherent weakness of the elastic fibers, (2) a toxin which still further weakens them, and (3) traction on the skin causing actual rupture.


Smith reports an extensive case showing two types of lesions, one conforming to the type of acne varioliformis, the other to lichen scrofulosorum.

Senear, Chicago.


The author calls attention to the importance of early diagnosis; commends the reliability of the dark field apparatus in the diagnosis of primary lesions; and points to the gravity of delayed diagnosis or the use of strong applications to a suspicious sore.

Tomlinson, Omaha.

THE CEREBROSPINAL FLUID IN SYPHILIS. Charles F. White and Hugh Barber, Brit. J. Dermat. & Syph. 31:5 (Jan.-March) 1919.

White and Barber have examined the spinal fluid in 324 cases of syphilis, and dividing the cases into groups according to the stage of the disease, have tabulated their results. The frequency of pathologic findings in the
spinal fluid of cases of secondary syphilis which relapsed after treatment with arsphenamin is suggestive, and they feel that in such relapsed cases the nervous system is liable to be affected.

Senear, Chicago.

TREATMENT OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM.

Intraspinal treatment is considered essential by the author if we are to handle properly syphilis of the nervous system.

Tomlinson, Omaha.

VITILIGO AND ITS RELATION TO SYPHILIS, ACQUIRED OR HEREDITARY. W. H. Brown, Dr. Dujardin, Dr. Von Haecke, Brit. J. Dermat. & Syph. 31:1 (Jan.-March) 1919.

Brown, Dujardin and von Haecke report the results in some fifty cases of vitiligo examined for syphilis, and conclude on what seems inconclusive evidence that:

If vitiligo develops in adult life, it generally coexists with syphilis, usually of a mild meningeal type.

If the vitiligo develops in infancy, it coexists frequently with symptoms which can be attributed to a benign form of hereditary syphilis, where classical signs are rare.

Though it is impossible to conclude with certainty that the relation between syphilis and vitiligo is one of cause and effect, a deeper study of cases will, they believe, substantiate this hypothesis.


Skinner gives a detailed history and observations in a case of multiple benign hemorrhagic pigmented sarcoma of Kaposi, and describes the salient clinical and pathologic features of this disease. He also offers a summary of conclusions concerning present day ideas concerning this disease.


Le Clerc-Dandoy explains the campaign being made by the Société Belge D'Engénique to instruct the people in the dangers of and prophylaxis for venereal diseases, and reproduces the poster placed in public buildings by the society.

VACCINES IN THE TREATMENT OF CUTANEOUS DISEASE.

MacLeod and Topley say that of all the conditions which they have treated with vaccines, definite and immediate benefit has followed only in suppurative staphylococcal lesions, especially in acute recent and recurrent boils. In chronic boils, especially about the back of the neck, results have been more uncertain and sometimes unsatisfactory. The authors’ results in acne, sycosis barbae and tuberculosis are in accord with those of Sequeira and Western.

Ward describes a peculiar circular ulcer of the leg appearing in a child suffering from epilepsy, who was treated with bromids. He contends that it belonged in the group of so-called "condyloma-form" bromid eruptions.

SENEAR, Chicago.
Society Transactions

MANHATTAN DERMATOLOGICAL SOCIETY

Regular Meeting, Oct. 14, 1919

PAUL E. BECHET, M.D., Chairman

SCLERODERMA IN A CHILD. Presented by Dr. O. L. Levin.

A. S., a schoolboy, aged 10, born in this city, applied as a private patient four days ago for relief of a hardening of the skin. This condition was first noticed as a swelling of the right hand and a brownish discoloration of the right elbow. The discoloration spread up the arm, and the swelling slowly subsided and was replaced by a hardening of the skin of the hand, the fingers, and the forearm as far as the elbow. One year ago, a hard shiny patch appeared on the left shoulder, and three months ago similar patches appeared on the right thigh and right foot. For the past nine months, treatment, had consisted of bakings, thrice weekly. The past history and family history were both negative except that the father had had a nervous breakdown several years ago.

The patient presented patches of brownish pigmented skin enclosing areas of achromia on the right scapular region, the right upper extremity, and the outer aspect of the lower fourth of the right thigh. Bands of hidebound skin occurred in these areas as well as on the right shoulder and on both feet. There was also diminished function of the hands.

The general examination revealed nothing abnormal except an alopecia of the outer half of the eyebrows. The Wassermann reaction of the blood serum was negative.

DISCUSSION

Dr. Howard Fox thought the term diffuse scleroderma improper as applied to the generalized forms of the disease associated with edema, or to cases of the sclerodactylyia type. This was a distinctly localized scleroderma of interest because of its linear configuration.

CASE FOR DIAGNOSIS. Presented by Dr. H. J. F. Wallhauser for Dr. H. O. Carrington.

A negro presented an erythrodermia, with mild scaling, involving the upper and lower extremities, which had been present for fifteen years and had remained practically unchanged. In various locations, but limited to the areas involved, numerous pea-sized nodules were present. The patient stated that they had been present from the very beginning, coming on in crops; they had gradually disappeared, and the result was the "scaly condition." He was quite positive there had not been a time when he was entirely free from the nodular lesions.

DISCUSSION

Dr. Howard Fox said he was not familiar with any nodular type of para-psoriasis. The diagnosis of prurigo nodularis had been suggested in an informal discussion; but he thought the patient did not present this condition on account of the absence of itching. He thought the most probable diagnosis in this interesting case was some form of psoriasis.
Dr. I. Rosen said that he would call it parapsoriasis nodularis. It resembled a case he had under observation at the present time. The lesions in his case were very much infiltrated, and would appear and disappear; when they receded, distinct scaling could be seen, as in Dr. Carrington’s patient. In his opinion the patient also presented the typical erythrodermie pityriasique en plaque disseminées.

Dr. H. J. F. Wallhuaser said that his original diagnosis was parapsoriasis, and he was inclined to regard the nodular lesions as due to a secondary infection, since the induration was distinctly follicular. A biopsy would be made and the findings reported at a future meeting.

**Lichen Sclerosus or Atrophicus.** Presented by Dr. B. F. Ochs.

M. S., aged 40, was married to a man suffering from paresis. In the beginning of January of this year, the patient stated, a little red papule that was very itchy appeared on her left forearm. The lesion grew peripherally and cleared in the center, so that it looked like a ringworm. A few more similar lesions appeared on the back of the neck and on the forearm during the next three months. At that time, she experienced a severe itching on the back and front of the neck and on the upper part of the chest. The parts became red, and soon after, rough papules appeared.

When the patient was seen in the middle of last August, she presented a number of depigmented patches, which were not infiltrated but had on their surfaces a large number of gray horny plugs, comedo-like bodies—or, where the latter had fallen out, little depressions. The patches were completely or partially surrounded by an annular patch of lichen planus; there were also outlying typical lichen planus papules and patches. On the neck and upper part of the chest, the skin was literally covered with red acuminate papules, each of which had a horny plug or comedo-like body projecting from its apex. The same papules were also scattered among the lichen planus lesions.

A biopsy was made, the section being taken from the edge of the vitiligo patch, including the border.

*Pathologic Findings.*—There were: hyperkeratosis, atrophy of the rete malpighii, and degeneration of rete cells; atrophy of the papillae and their complete absence toward the center of the lesion; a very mild diffuse infiltration in the upper layer of the corium, and in places sclerosis of the fibrous tissue; a marked perivascular infiltration of the middle layer and a comparatively normal lower layer in which a few sclerotic vessels were found. The fat cells had a slight tendency toward staining with eosin. The hair follicles were dilated, filled with a horny plug, and their sheaths were much infiltrated.

When presented, the patient showed no evidence of the vitiligo patches, which had lost the horny plugs; there was pigmentation in place of the lichen planus lesions, a number of flattened plugs, and depressions where they had fallen out.

**Discussion**

Dr. Ochs said that when he first saw the case, the patient showed what he considered to be typical lichen planus lesions surrounding the atrophic lesions. At that time she was taking arsenic, and he asked her physician to stop the treatment for a while. A microscopic section had been shown to Dr. Wise.

Dr. Wise said that the specimen which had been submitted to him by Dr. Ochs did not show the characteristics of lichen planus atrophicus. There was no massed infiltration deep down in the corium, and he doubted very much that the case was an example of lichen planus atrophicus, even from the clinical
appearance of the lesions. That the patient did have lichen planus at a certain
time was probably true, but he saw no evidence of the atrophic type of the
disease on presentation. The patient’s skin presented a follicular hyperkerata-
tosis with areas of vitiligo.

LEPROSY. Presented by Dr. W. S. Gottheil.

The patient, a woman, aged 31, was born in the British West Indies, and
had lived in the United States for eighteen months. Her entire body was
covered with circinate, atrophic and pigmented lesions. On the arms the
lesions had fused into irregular areas, the centers of which were distinctly
white and atrophic. These lesions were very characteristic in daylight, but
were not seen so well by artificial light. The patient was beginning to show
the characteristic atrophy.

The speaker said that probably some of the men had seen the case in
other clinics. When the patient was stripped, her entire body showed this
marbled appearance of patches with white centers. There were no anesthetic
areas. The woman’s general health was fairly good. When she first came
under observation last winter, the condition was not so advanced as now, and
the characteristic facies had not developed. She first noticed the white spots on
her thighs a year ago.

DISCUSSION

Dr. Howard Fox presented photographs of similar cases of extensive macular
leprosy of the annular type, one of them having been published by Stelwagon.

Drs. F. Wise and M. B. Parounagian agreed with Dr. Gottheil’s diagnosis.
Dr. Wise had had the patient under observation at the Vanderbilt Clinic several
months previously and had referred her to the City Hospital.

FOR DIAGNOSIS (BULLOUS DERMATITIS HERPETIFORMIS OR
ERYTHEMA MULTIFORME). Presented by Dr. W. S. Gottheil.

The patient, a little girl, aged 4, gave a history of having had a similar
eruption several years ago. Three months before, papules appeared on her
chest which rapidly became vesicles and bullae, and the child was sent to
the hospital with a diagnosis of pemphigus. The speaker said he had seen her
only once or twice. The eruption was confluent, and more grouped on presenta-
tion than when first seen. The lesions at first were distinctly isolated, then
they became inflammatory papules, developing into vesicles and later into
bullae. The mucosae were not affected, and the child’s general health was
good. The malady was progressing very rapidly, but the diagnosis of pem-
phigus seemed to be excluded.

The case was presented with a diagnosis of bullous dermatitis herpetiformis
or erythema multiforme, with a prepossession in favor of the former.

CASE OF LYMPHOGRANULOMA. Presented by Dr. M. B. Parounagian.

The patient, a woman, had been presented last May for diagnosis. Since
that time microscopic examination revealed the condition to be lymphogranu-
loma. Most of the members had seen the case in May, and the patient was
presented simply to show the development of the case. She had been treated
with roentgen rays and small doses of Fowler’s solution and Basham’s mix-
ture, and the glandular swellings were becoming much smaller and the color
of the patches lighter. At one time, the glands in the groin were enormously
swollen.

DISCUSSION

Dr. B. F. Ochs remarked that the patient had improved very much since she
was last seen.
Dr. F. Wise said that the patient had improved greatly under treatment. Dr. Parounagian had presented her last May, and the biopsy then made at the Vanderbilt Clinic showed a typical lymphogranuloma. The lesion was a circumscribed form of lymphogranulomatisis cutis or lymphadenosis of the skin.

PITYRIASIS RUBRA PILARIS. Presented by Dr. O. L. Levin.

The patient, a married woman, aged 44, born in Russia, stated that the intensely itching generalized eruption that she presented had been present for seven weeks. She had never before had any cutaneous disorder, and her general history was negative.

She presented a generalized eruption made up of acuminate red papules, which were situated at the mouths of the pilosebaceous follicles, and many were pierced by hairs. The condition was most marked over the scapular and sacral regions where the papules showed a tendency to become confluent and form thickened erythematous patches. The skin of the palms and soles was only slightly thickened, and there was only a faint suggestion of black papules on the dorsum of the fingers. The urine was normal, and chemical examination revealed normal blood.

DISCUSSION

Dr. George H. Fox suggested that every one who showed a case should instruct the patient not to use any salve or lotion for at least two or three days before being presented at a meeting. He said that if this patient had been for a week or more without local treatment she would probably have presented two typical forms of lichen ruber—the papular and the squamous. Some years ago, he had studied an unusual number of these cases and had described three clinical forms—the papular, the squamous, and the rugose forms, the last showing thickened ridges. If this eruption had not been obscured by local treatment, the patient would have presented white squamous patches where scale-tipped papules had coalesced, resembling a superficial psoriasis.

As to nomenclature, the first three cases of this disease were partially described by Devergie under the name of pityriasis rubra pilaris. The hands presented papules about the hairs on the dorsum of the first phalanges; these were undoubtedly cases of lichen ruber. No one described other cases like these until Hebra gave a full description of the disease and called it lichen ruber. The man who first described a disease accurately deserved the privilege of giving it a name and, laying national prejudice aside, lichen ruber was a more convenient and at the same time a more correct name than pityriasis rubra pilaris, which was given to it years later by Besnier. Though they had been separately described in some textbooks, it is very certain that both names referred to the same disease; and although temporary improvement often took place it was quite possible that sooner or later most of them terminated fatally as did Hebra’s thirteen cases. Most dermatologists agreed that lichen ruber and lichen planus were distinct affections, and that Kaposi erred in classing them together as forms of one disease under the names lichen ruber acuminatus and lichen ruber planus.

Dr. W. S. Gottheil approved Dr. Fox’s suggestion that a rule be made that patients be put on some kind of innocuous treatment for several days before being presented at the meetings. One of the patients presented had a salve plastered all over her.
Dr. O. L. Levin reported that a similar condition in a patient presented at the May meeting had cleared up without external treatment but under the internal administration of thyroid. The patient just presented would also be given thyroid.


Mrs. J., aged 36, gave a history of three years' duration of lesions that would develop as grayish, sharply-defined patches on the dorsum of the tongue and that would spread rapidly and clear later, leaving a border with a reddened and denuded center. After they had cleared up in the course of several days, they would appear elsewhere, migrating from place to place, the tongue never being free of them. Two weeks ago, the patient developed bullae at the mucocutaneous junction of the anus, which disappeared spontaneously.

DISCUSSION

Dr. W. S. Gottheil said that it was a typical case. When he had seen the patient three days before, she did not show the condition so plainly as on presentation.

LUPUS ERYTHEMATOSUS IN A SYPHILITIC PATIENT. Presented by Dr. O. L. Levin.

A. L., a man, aged 33, a native of the United States, complained of an eruption of the face which had been present for ten years. He denied syphilis, but his wife was under treatment for active tertiary syphilis. The Wassermann reaction of the blood serum was repeatedly negative. In spite of all methods of therapy, the lesions continued to spread, but once, two years ago, antisyphilitic treatment had flattened them.

Both cheeks and the nose were covered by a fine smooth scar on the periphery of which there was a wide border which was bright red in color, elevated, and covered with thick, typical scales. On the scalp were small patches of atrophy and active lesions. Although the Wassermann reaction was negative, the pupils were irregular, the knee jerks were absent, and there was a positive Romberg sign.

LICHEN PLANUS ANNULARIS. Presented by Dr. M. B. Parounagian.

The patient, a little girl, aged 13, was presented last May with a diagnosis of lichen planus, the lesions being located on the face, neck and hands. At that time, no one agreed with the diagnosis, and she was brought before the Society again in order that the members might note the present condition of the case. When seen, September 4, the lesions were very much more pronounced than on presentation.

DISCUSSION

Dr. F. Wise said that when Dr. Parounagian presented the patient last spring every one of the members excepting the exhibitor insisted that it was a case of lupus erythematosus. Dr. Parounagian asserted then that it was lichen planus, and he was right.

Dr. W. S. Gottheil said that he could not agree in regard to the lesion on the side of the nose because of its shape, appearance, and persistence.

Dr. P. E. Bech† agreed with Dr. Gottheil; while the lesions on the arms were typical of lichen planus, the lesions on both sides of the nose were more suggestive of a seborrhic dermatitis, follicular in character.
Dr. M. B. Parounagian said that Dr. Wise had stated the case as he would himself. Last May, when first presented, the patient had lesions on the eyebrows, sternum and neck, also a few on the hands; all were of the same type—violaceous, shiny, etc. He had watched the case week by week since, and when every one else called it lupus erythematous he thought differently—he could not see any lupus erythematous about it. Especially in August and on the last visit in September, the lesions were typical, though at this presentation they were somewhat faded, as the patient had been treated continuously since the last presentation.

ALOPECIA TOTALIS. Presented by Dr. M. B. Parounagian.

Mr. B., aged 51, born in the United States, a tire repairer, presented a total alopecia. The condition started in the spring of 1919, and in less than a month he had lost all the hair from his head and body. He did not give a history of shock, injury, or anything that would account for the trouble. The Wassermann reaction was negative. The patient also presented a number of psoriatic patches on his arm and scalp; he had had these lesions for about twelve years.

The speaker asked for suggestions as to the treatment of the case and wished to know whether there was any hope that the hair would grow again.

DISCUSSION

Dr. Howard Fox thought it the general opinion that cases of total alopecia areata had a rather hopeless prognosis. He had treated a series of about thirty cases of alopecia areata with the Kromayer lamp. In general, the results were satisfactory. In one case of total alopecia, in spite of treatment given over a period of three years, there was no improvement whatever.

Dr. H. J. F. Wallhauser said he had had a case in which a total loss of hair occurred, followed by complete recovery.

Dr. B. F. Ochs said that two or three years ago, he had presented a similar case in a man of about 40 years of age. The patient had since been under treatment at Lebanon Hospital, and his hair was beginning to grow again. He said he would try to show the patient at some subsequent meeting.

Dr. P. E. Bechet expressed the opinion that age was an important factor in the prognosis of these cases, and cited the instance of a patient who at 50 suffered a total alopecia. When observed ten years later there was still no vestige of hair. On the other hand, it was his experience that patients in whom the disease occurred early in life eventually recovered entirely.

Dr. G. H. Fox said that no one had made any reference to the possible nervous origin of the condition. This man seemed to be in fine physical condition. He had seen men with alopecia areata come from the farms with faces tanned and apparently in excellent health, although in most cases it occurred in nervous and overworked persons.

Dr. M. B. Parounagian said that the patient was a very intelligent man and gave a very correct description of his case. He had stated that he did not have any bald patches, that the condition started in the middle of May, and by the middle of June he was entirely bald. He had, besides, several patches of psoriasis on the scalp.

Thinking that the condition might have something to do with the internal secretions, the speaker said he had begun to give the man small doses of thyroid and was gradually increasing the quantity; the psoriasis lesions had almost entirely cleared up with routine treatment.
Dr. W. S. Gottheil said that they had not secured any distinct history; he had tried to find out whether it began as an acute alopecia areata and spread all over the body. All the cases that he had seen had been cases of alopecia universalis; it was unusual to have it occur so late in life as in this case.

CASE FOR DIAGNOSIS. Presented by Dr. M. B. Parounagian.

A boy, aged 12, born in the United States, according to the history, had had the condition for two weeks. The lesions were of a follicular keratotic character and appeared on the side of the neck, on the trunk, and in the axillae, and there was a slight eruption on the lower extremities. It was a rough follicular eruption. Some glands in the neck and axillae were swollen.

DISCUSSION

Dr. O. L. Levin stated that in his opinion the eczema was a secondary condition. The original condition appeared to be a hyperkeratotic affection of the skin which was most marked in the mouths of the pilosebaceous follicles. The patient also showed a marked hyperkeratosis, and in his opinion the whole condition depended on a disturbance of the internal secretions. The eczema of the skin probably followed scratching. He advised small doses of thyroid, one-tenth grain twice a day.

Dr. G. H. Fox said that when he first studied dermatology this condition was usually called lichen simplex. Hebra called it papular eczema, and deserved credit for showing that lichen, impetigo, etc., were all clinical forms of one disease, namely eczema, and that one form might readily change to another.

Dr. M. B. Parounagian said that if this were simply a case of papular eczema it was one of the rarest forms he had ever seen. There ought to be a better name for such cases. He had seen the patient only once and he expected to study the condition further. There were a number of features about the case worth considering carefully. He had presented it because he was desirous of knowing what the other members would call it.

PITYRIASIS ROSEA. Presented by Dr. M. B. Parounagian.

A boy, aged 8, born in Russia, presented lesions of four or five days' duration that appeared mainly on the lower extremities, a few being on the arms. They were brownish, with scales on the top of the papules. There was a large circular patch on the back of the right thigh, suggestive of a primary patch, and the condition was psoriatic.

DISCUSSION

Dr. G. H. Fox called the condition a papular eczema.

Dr. A. J. Gilmour could not agree with the diagnosis of pityriasis rosea as the papules were very much indurated.

Dr. P. E. Bechet stated that the lesions were quite thickened and excessively scaly; many of them were follicular in type, and the trunk was free. With these facts in mind, it seemed to him that the eruption—despite the fact that the scalp was free—resembled a seborrheic eczema of the follicular type more than it did pityriasis rosea.

Dr. M. B. Parounagian replied that the scalp was absolutely free from seborrhea. The patches on the thigh suggested a case of pityriasis rosea beginning on the thighs and chest. He would watch the case and show the patient again if possible.
LICHEN PLANUS HYPERTROPHICUS WITH FOLLICULAR LESIONS.  
Presented by Dr. F. Wise.

Oluf L., from Dr. Fordyce's clinic, a sailor, aged 37, married, who was born in Sweden, and had been in this country three years, had had the eruption for four years. The right shin at its middle third presented a semicircular and several linear lesions; these were purple-red, slightly elevated, and covered with adherent scales. To the right of these lesions were numerous prominent follicles with horn plugs.

DERMATOTHLASIA (SO-CALLED "PICKER'S DISEASE"). Presented by Dr. F. Wise.

Frank D., an Italian, aged 55, married, who had been in the United States for thirty-three years, and who was from Dr. Fordyce's clinic, had suffered from this condition for five years. Most of the lesions were on the scalp, face and neck, a few being on the lower extremities. The lesions were about the size of a dime or smaller; they were scaly and crusted, with some scarring in the older ones. They were most marked on the neck along the hair line. The man said that he had kept up a constant irritation with his fingers, thus provoking the lesions.

DISCUSSION

Dr. W. S. Gottheil expressed the opinion that it was nothing more than mere traumatism caused by the patient's fingers. The patient probably did some scratching and picking. It would also seem that he had a lupus erythematosus.

MULTIPLE GUMMAS. Presented by Dr. O. L. Levin.

A man, aged 45, negro, married, a native of this country, stated that numerous swellings and ulcers had been appearing on the right leg for the past three months. He admitted having had a chancre of the penis and secondaries eighteen years ago, and had taken treatment for several weeks. He had been married for fifteen years, and his wife had never been pregnant.

Studding the anterior, inner, and outer aspects of the right leg were about twenty-five small, punched-out, round and reniform ulcers, varying in size from that of a pea to that of a quarter, and exuding a serous and seropurulent discharge. Interspersed between these, were numerous scars which were very black in color. The Wassermann reaction was ++ + + +.

PECULIAR SCARRING IN NORTH AFRICAN NEGRO. Presented by Dr. F. Wise.

Galliani G., from Dr. Fordyce's clinic, a negro from North Africa, aged 26, who had been in this country a short time, and who spoke French only, presented symmetrically arranged linear hypertrophic scars on the forehead and cheeks. This scarring had been done with intent four years ago, according to tribal custom. He now wished to have the scars removed.

DISCUSSION

Dr. W. S. Gottheil said that the term "ritual scarring" which some one had used in connection with the case was wrong. These were tribal marks which the man had put on for "good luck" in fighting. The man came from the Gold Coast where the natives did that sort of thing—you might call it what you liked. In addition to the local injury, carbon or something else had been implanted in the cuts, and the boy was now anxious to have them removed.

Dr. P. E. Bechet said that the patient told him the marks were made in order to keep him safe from injury in the late war. It might be of interest to
state that these visible evidences of dark superstition were not confined to Africa. As late as twenty years before he had observed one or two cases of scarring, fetishism, and voodooism among negroes of the French quarter in New Orleans.

NEW YORK DERMATOLOGICAL SOCIETY

Regular Meeting, Oct. 28, 1919

GEORGE H. MACKEE, M.D., President

XERODERMA PIGMENTOSA. Presented by Dr. F. Wise.

Edith W., aged 9, from Dr. Fordyce's service, was born in this country, and presented a skin disease of eight years' duration. The lesions consisted of freckling, with small pinhead sized to pea-sized keratoses, which were especially marked on the nose, and scattered telangiectases of either side of the nose and cheeks. There was also beginning atrophy of the skin on the cheeks; the vermillion border of the lips was pigmented; the ocular conjunctivae were involved, and there was ectropion of the right lower lid. The extremities, especially the upper, down to and including the fingers, showed only freckling and small melanotic spots, with one small keratosis on the little finger of the left hand.

URTICARIA PIGMENTOSA. Presented by Dr. F. Wise.

John K., aged 7, from Dr. Fordyce's service, was born in this country and had been troubled with this skin disease for the last three months. The lesions varied in size from that of a millet seed to that of a plaque one-half inch in diameter, and were of a fawn-yellow color, much lighter on the extremities than on the trunk. Distinct urticarial wheals were also present, which presented a typical urticarial reaction on friction of the lesions.

DISCUSSION

Dr. G. M. MacKee called attention to two cases diagnosed clinically as urticaria pigmentosa and which, histologically, proved to be endothelioma. These cases were studied in Dr. Fordyce's clinic, and were reported by Dr. Wise in the American Journal of the Medical Sciences.

CASE FOR DIAGNOSIS. Presented by Dr. F. Wise.

Herbert M., aged 10, from Dr. Fordyce's service, was born in this country and had suffered from this skin trouble for nine years. The lesions were erythematous, scaly, infiltrated, slightly pigmented, and circumscribed, and covered the entire palms of both hands, extending also for a short distance on the dorsum of the hands, where the edges were sharply marginated. The middle and ring fingers of the left hand and the web between were also involved; an erythematous patch was on the umbilicus, and a linear scaly patch on the base of the penis; there was also a dollar-sized scaly patch on the inner side of the sole of the left foot, with a slight involvement of the toes. The lesions were at first thought to be psoriatic, but there was none on the knees and elbows, and the history could not be relied on as to previous lesions.

DISCUSSION

Dr. J. M. Winfield considered it a case of psoriasis.

Dr. H. J. Schwartz thought the lesion on the thigh was psoriasis.
Dr. W. J. Highman also thought it was a case of psoriasis; this was only the second case of psoriasis of the palms that he had seen in the past twelve years. The first case had been recognized as psoriasis by Herxheimer in Frankfort, in the patient's boyhood, and he had subsequently acquired syphilis. When seen by the speaker he had gummas of the fingers as well as psoriasis. Under antisyphilitic treatment the syphilis disappeared, but the other condition persisted.

Dr. Howard Fox said that this case exemplified the fact that it was difficult or impossible to differentiate between eczema and psoriasis of the palms when no other lesions were present on other parts of the body. He did not think that psoriasis of the palms (occurring with psoriatic lesions elsewhere) was as rare as Dr. Highman had found it.

Dr. H. H. Whitehouse said that the case had impressed him as being psoriasis of the palms, although the distinction between that and eczema, and other conditions of the palms was sometimes very difficult. He then recalled a case, which Dr. Fox might also remember, of a patient in the Skin and Cancer Hospital years ago, in which the psoriasis was confined to the palms, and not until subsequently, when some other papules were found, was the diagnosis of psoriasis made. The case presented corresponded very closely to that type.

Dr. W. B. Trimble recalled a former case presented by Jackson. The patient had suffered from psoriasis of the palms for about twenty years. The lesions were confined to the palms, the body being perfectly clear. At the time there was some discussion as to the correctness of the diagnosis. The patient was later admitted to the University and Bellevue Clinic, and following some very active and stimulating treatment to the hands the disease became generalized over the whole body; this, of course, rendered the diagnosis unquestionable. He also cited another case of a young woman who had one lesion on each elbow, with none elsewhere. These lesions had been localized to the elbows for four years, and were removed with chrysarobin ointment, only to be followed by a general outbreak a few weeks later. Sometimes localized lesions of this kind remained stationary for years and became generalized after some irritating treatment had been applied. It would therefore seem wise at times, unless the lesions were on exposed surfaces, to "let sleeping dogs lie."

HYPERTROPHIC SCARS. Presented by Dr. G. H. Fox.

A young man presented various lesions on the back of the neck, which were at first thought to be dermatitis papillomatosus. About six or seven years ago he had two boils on the back of the neck which were operated on and caused large hypertrophic cicatrices. The lesions suggesting the diagnosis of dermatitis papillomatosus were nodules containing pus pockets undermining the skin over the whole surface. These pus pockets had been treated with the burr and phenol, and the prominent cicatrices, which when first seen were two or three times as prominent as on presentation, had mostly subsided. This would not have occurred had they been keloids.

TINEA CRURIS. Presented by Dr. G. H. Fox.

This case was presented not because of its rarity, but with the idea of eliciting a discussion as to the proper nomenclature, the etiology, and the methods of treatment of the condition. The speaker had written the first article in The Journal of Cutaneous Diseases describing a spreading eruption which he termed trichophytosis cruris, although at the time he had not considered it an ordinary ringworm. It was what Hebra termed eczema
The consensus of opinion at the present day seemed to be that it was an epidermophytosis affection, but it ought to have a definite name. In an article written some time ago on pityriasis rosea, the speaker had expressed the opinion that there was some relation between the so-called eczema marginatum of the anal and inguinal regions and the typical cases of pityriasis rosea. He had seen several cases in which there were marginate patches in the axilla and groins, and a typical pityriasis rosea of the chest and thighs. It would be too bold to suggest that pityriasis rosea was caused by the epidermophytosis, but it seemed probable now that in various eruptions heretofore called eczema there was a parasitic element. It seemed probable also that many of the macular and circinate affections that so much resembled pityriasis rosea that it was almost impossible to avoid making that diagnosis, might be due to the same parasite. Possibly the epidermophytosis might cause many eruptions which were quite different in their clinical appearance.

It would be very interesting to know the opinion of the members as to the proper name by which the condition should be designated, also their ideas in regard to its parasitic nature and the proper method of treatment. This case had only begun within the last month; the itching was severe but under chrysarobin ointment it was greatly relieved.

DISCUSSION

Dr. S. Sherwell asked why Dr. Fox had not used formaldehyde instead of chrysarobin. It gave a better result without the unpleasant effect.

Dr. W. J. Highman said that there were two types of common fungus infection in this region, one being the erythrasma provoked by the Microsporon minutissimum which is closely related to the organism causing pityriasis versicolor. The type seen in Dr. Fox's case was caused by an organism called Epidermophytosis marginata. Certain dermatologists had adopted the name epidermophytosis for the disease, but whether or not that was the best term that could be suggested he was not prepared to decide.

The treatment which he had found most pleasant, although not so rapid as that employed by Dr. Fox, was Whitfield's ointment, introduced in this country by Dr. Ormsby, consisting of 6 per cent. salicylic acid and 12 per cent. benzoic acid in an ointment base, applied twice a day. It caused considerable irritation at times and some pain, but it relieved the condition. Ormsby said that if it should fail, chrysarobin was the best ointment to use.

Dr. Howard Fox asked if the benzoic acid had anything to do with the effectiveness.

Dr. W. J. Highman replied that he thought it did. It worked equally well with the epidermophytosis and other parasitic lesions of the feet.

Dr. F. Wise asked if Dr. Fox had any objection to the name "tinea cruris."

Dr. G. H. Fox replied in the affirmative. In his opinion the condition was not ringworm and not eczema, and there ought to be a separate name for it. Epidermophytosis would seem to be the best, although it was a long one.

Dr. H. H. Whitehouse said he would like to make one remark about Dr. Fox's question in regard to the beneficial effect or otherwise of benzoic acid in Whitfield's ointment. As an evidence of its possibly innocuous effect, one of his staff at the Post-Graduate Hospital had told of a patient whom he had cured promptly with that ointment, and found out later that the druggist had not put any benzoic acid in it—they had used the ointment all the time without knowing it—plain salicylic acid. In the tropics they used plain salicylic acid for these ringworms and they disappeared very promptly.
ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY

Dr. G. H. Fox said that Whitfield's ointment was simply a salicylic ointment, and expressed a doubt whether the addition of benzoic acid to it had any effect whatever.

LUPUS ERYTHEMATOSUS DISSEMINATUS. Presented by Dr. F. Wise.

A young woman who had been treated in private practice for several months without success had previously been to a number of other physicians and clinics without any benefit. She was presented for suggestions as to the proper mode of treatment. She suffered from recurrent attacks of the disease, and presented characteristic chilblain-like lesions on the hands, together with numerous superficial patches on the face, neck, back, and chest. The ordinary sedatives would cause the lesions to disappear for a short time, but they inevitably recurred. Examination of the internal organs and metabolic processes of the patient revealed no abnormalities. The teeth and tonsils were free of disease.

DISCUSSION

Dr. Howard Fox said that as most patients with the disseminated type of lupus erythematosus eventually died of pulmonary tuberculosis, he thought the wisest plan would be to follow the general treatment for tuberculosis patients.

Dr. G. M. MacKee said that the edematous patches of lupus erythematosus sometimes yielded to very mild roentgen applications—slight stimulating doses—more frequently to the Beta rays of radium. If they did not yield promptly, however, continued treatment was not indicated, it was even contraindicated. If the response was not immediately favorable, the Kromayer light or some other treatment should be tried. Several years ago, he had tried the use of tuberculin in all of the tuberculosis group, but it was not found to be efficacious in any of the tuberculids or in lupus erythematosus, whereas in Bazin's disease and in certain types of lupus vulgaris it acted very well. Based on that experience, it would seem that tuberculin was not indicated in a case such as the one presented.

LUPUS VULGARIS (DISSEMINATED FOLLICULAR TYPE). Presented by Dr. Howard Fox.

Margaret W., a colored woman, aged 39, born in the United States, was married but had never had any children. Her father was drowned, her mother died in childbirth. Two brothers had died as infants, and one sister following an operation. As a child, the patient had suffered from measles, whooping cough, and chickenpox, and from typhoid fever as a young woman. She had a persistent cough, and had lost 17 pounds within a little over one year. The eruption appeared three years ago in the right ala of the nose. One year later it began to spread over the face. When presented she had a half dozen groups of dull-purplish, smooth, firm, sharply defined, non-itchy lesions. On the nape of the neck she presented about three dozen small pinhead-sized, follicular, shiny lesions. There was a slight keloid at the site of a former biopsy made at the Vanderbilt Clinic. Dr. Wise had stated that the microscopic examination of this pinhead follicular lesion revealed the typical structure of lupus vulgaris. The Wassermann reaction was negative. An examination of the chest (including a roentgenogram) revealed evidence of pulmonary tuberculosis.

DISCUSSION

Dr. H. H. Whitehouse said that the patient evidently had syphilis, for the Wassermann test was positive. He said the older he grew the more strongly he
felt that anything contrary to the ordinary in these conditions might never-
theless be syphilitic. He had under observation a private patient whose case
strongly resembled the sarcoid of Boeck—there were gummatous lesions as
hard as cartilage. The patient had a definite syphilitic history and some char-
acteristic symptoms, but a negative Wassermann reaction. The patient was
slowly improving under antisyphilitic treatment. He had also seen a similar
case in a negro. Therefore, while a microscopic examination would doubtless
clear up the diagnosis, he was inclined to think it a syphilitic process in its
entirety.

LUPUS ERYTHEMATOSUS DISSEMINATUS. Presented by Dr. W. J.
Highman.

A woman, aged 62, who had had a similar condition seven years ago, came
to Dr. Fordyce’s service a week ago, having suffered for five weeks with the
eruption, which began on the face and extensor aspects of the forearms. When
first seen, her pulse was 130, her mouth temperature 102 F., and she presented
marked signs of prostration. There was an erysipeloid area on her face, and
each lesion on the extremities was more markedly swollen than when she
was presented. A section was excised, and examination confirmed the clinical
suspicion that it was a rare condition—lupus erythematosus disseminatus.
There were plugs in the follicles, etc. The only other condition that might
be considered, so far as the hands were concerned, was acute erythema multi-
forme, but there was not sufficient evidence to sustain that diagnosis. The
patient stated that the eruption appeared when she caught cold.

PURPURU ANNULARIS TELANGIECTOIDES. Presented by Dr.
W. J. Highman.

The patient was a woman, aged 43, from the Mount Sinai Clinic, who for
three years has suffered with the eruption exhibited. It would become slightly
better and then grow worse, irrespective of seasons. It was difficult to make
a definite diagnosis so far as giving an accurate name to the condition was
concerned. The lesions consisted of punctate, purpuric spots, hemorrhagic
plaques, and a slightly infiltrated surface, somewhat roughened and with a
slight tendency to scaling. Dr. Scheer saw the patient first and made a diag-
nosis of Schamberg’s disease, but without knowing of that, the speaker made
the diagnosis under which the case was presented. It undoubtedly belonged
to the group of disturbances referable to the capillaries of the skin.

DISCUSSION

Dr. H. H. Whitehouse thought the condition was an eczema.

Dr. F. Wise thought the condition corresponded more closely to Majocchi’s
disease than to any other. It was not an eczema, but a distinct hemorrhagic
eruption, especially on the thigh. Both the history and the character of the
eruption were favorable to the diagnosis of Majocchi’s disease. He could not
accept the diagnosis of eczema in such a case.

Dr. G. M. MacKee said that while this was not a typical example of purpura
annularis telangiectodes, the symptoms presented were sufficiently classical for
identification. There had been only two typical cases encountered in this
country—one by Dr. Harris of Chicago and one by Dr. Ketron of Baltimore. The
speaker’s case, several years ago, was not absolutely typical. The patient
presented by Dr. Highman exhibited, the speaker thought, a very mild example
of the affection with a rather wide but not unusual distribution. The exacerba-
tions, the remissions, the puncta, the pigmentation, the grouping, and the attempt
to form annular lesions, together with the chronicity and the absence of derma-
titis, varicose veins, etc., all pointed to a diagnosis of purpura annularis telangiectodes or, as it had also been designated, folliculitis telangiectasia hemorrhagica.

Dr. W. J. Highman said that he had nothing to add to what had been said by Drs. Wise and MacKee. It was not a typical case, and yet he knew of nothing else to which it so closely corresponded. The entire group had certain strong points of similarity in that the purpuric element seemed to be a disturbance of the skin capillaries. They were probably all types of what Brocq called *faits de passage*, one type of lesion merging into the characteristic form of another type, each with a specific name but all due to disease of the very small cutaneous vessels.

**SCROFULOUS GUMMAS AFTER ROENTGEN TREATMENT.** Presented by Dr. G. F. MacKee.

I. W., a woman, aged 40, had suffered from the eruption for a year. She presented herself at Dr. Fordyce's clinic, showing a number of ulcers which were considered as representing the so-called cold abscess or scrofulous gumma. There was very little inflammation, but the tumors were large, deep-seated, and allowed the escape of a thick serous, viscid fluid. The lesions would last for months and finally heal, new ones constantly forming. There were always half a dozen or more lesions present. The Wassermann reaction was negative, and the therapeutic test was also negative. A biopsy was made, and examination revealed a tuberculous structure. Finally, the lesions were treated with the roentgen ray, and they healed very promptly; in the last few months no new lesions had appeared.

**CASE FOR DIAGNOSIS (LEPROSY OR LUPUS ERYTHEMATOSUS?).** Presented by Dr. F. Wise.

A woman, born in the United States, offered a rather peculiar history. She presented herself at Dr. Fordyce's clinic about three months ago, and at that time an unhesitating diagnosis of leprosy was made. She then showed marked lesions on the back which were somewhat infiltrated though they did not itch. There was a marked leonine expression of the face. There was no definite ulnar enlargement nor could any definite anesthesia be elicited, but in spite of the negative findings in these respects there seemed no doubt that it was a case of leprosy. Then Dr. Highman made a biopsy and pronounced it lupus erythematosus. The lesions disappeared under chaulmoogra oil and roentgen-ray treatment, and the only ones remaining on the back were pigmented plaques. Under the circumstances it was difficult to decide whether it was a case of leprosy or lupus erythematosus, though if the biopsy could be depended on, it was a case of lupus erythematosus disseminatus. The Wassermann reaction was negative.

**LYMPHANGIOMA CIRCUMSCRIPTUM.** Presented by Dr. F. Wise.

A woman, aged 19, from Dr. Fordyce's service, presented a lesion on the right thigh which had been diagnosed as lymphangioma circumscriptum and treated with radium at another clinic. The lesion appeared as a patch, consisting of yellowish vesicopapules arranged around the periphery of the patch, while in the center the lymphatic elements had disappeared and were replaced by pin-point angiomas.
MULTIPLE PIGMENTED HEMORRHAGIC SARCOMA. Presented by Dr. Howard Fox.

Peter G., an Italian, aged 59, presented an eruption that had first appeared about five months before and consisted of tumors varying in size from that of a split pea to that of a hazelnut. Two types of lesions were present. One consisted of firm, elevated, roundish, sessile, smooth, shiny tumors of dull red, some of them presenting a violaceous tint. The other consisted of subcutaneous, bluish, shotty, pea-sized nodules, slightly raised above the surface of the skin. The majority of the lesions were situated on the anterior aspect of the right leg and dorsum of the foot. There were a dozen lesions on the shaft of the penis, and a single lesion on the back of the right hand, the left elbow and the left foot. The patient was well nourished and apparently in good health. The lesions were being treated by fulguration.

LUPUS VULGARIS. Presented by Dr. F. Wise.

Charlotte H., aged 54, was from Dr. Fordyce's service. Three and a half years ago her nose was blocked so that she could not breathe and an operation was performed. This was followed by an attack of erysipelas, and after that an eruption appeared. It was a rather unusual case of lupus vulgaris, appearing late in life, and showing a peculiar distribution of the lesions. The nose was thickened and distorted, and the patches were more or less scattered. The biopsy showed it to be a typical lupus vulgaris.

TUBERCULOSIS CUTIS. Presented by Dr. F. Wise.

A man, aged 53, from Dr. Fordyce's service, five years ago had had a fistula of the anus, for which he was operated on, and shortly afterward the lesions appeared around the anus and spread over the buttocks. A peculiar lesion appeared on the backs of the hands. Both sets of lesions were tuberculous cutis. Those on the hands had been treated with the roentgen ray and showed great improvement. Those on the buttocks had not yet been treated. The lesions consisted of large, indurated, sharply-defined, deep violaceous plaques showing evidences of numerous small ruptured abscesses.

NEUROTIC EXCORIATIONS. Presented by Dr. G. M. MacKee.

A man, aged 35, and of a neurotic temperament, presented numerous ulcers and excoriations on the cheeks and neck. He was from Dr. Fordyce's service. The lesions ranged in size from that of a pinhead to that of a silver quarter. Most of the lesions were superficial excoriations of irregular outline. Some were crusted while others were exudative. The ulcers varied in size from that of a split pea to that of a dime. Some of them were quite deep, extending through the fine skin, while most of them were superficial. The floor of each ulcer was dry and glistening, and they were rather abrupt. The outlines were irregular—round, oval, and even linear. The patient admitted picking at the lesions constantly in an endeavor to remove little pieces of tissue. After these were removed, the lesions felt more comfortable, but only for a short time. There were numerous scars. The cause was a mania for picking at the lesions, and there was no intention to deceive. The diagnosis, therefore, was neurotic excoriation and not dermatitis factitia.
Book Review

LE TRAITEMENT DE LA SYPHILIS PAR LES COMPOSES ARSENI-CAUX. Par le Dr. LACAPÈRE, Ancien chef de clinique a l'hôpital Saint-Louis; Medecin de Saint-Lazare. Masson et Cie., éditeurs libraires de L'Academie de Médecine. 120 Boulevard Saint-Germain, Paris, 1918.

The title of this book is rather misleading as it devotes over fifty pages to the Wassermann reaction, twenty-five pages of which are taken up with technical details. Eight pages are devoted to the technic of lumbar puncture and the analysis of the cerebrospinal fluid. This, however, does not in any way detract from the value of the work, as both methods are necessarily important guides to treatment. The author's views are thoroughly in accord with the advanced ideas on the therapy of syphilis. He believes that arsenic is therapeutically superior to mercury. Arsenic frequently aborts syphilis, mercury does not. It is his belief that many of the objections to arsenic come from those who ignore the technic of its intravenous administration. Of the arsencal preparations, he prefers arsphenamin and neo-arsphenamin. In spite of the relative inferiority of galyl, he considers it an excellent antisyphilitic. Of the two former preparations, he prefers arsphenamin because neo-arsphenamin has a tendency occasionally to cause more or less severe jaundice from one to two months after a series of injections. He prevents the nitritoid crises by a preliminary intravenous injection of from one half to one centigram of arsenic five minutes before the regular dose.

In a discussion of the treatment during the period of incubation he relates the following interesting incident: Three healthy men having had intercourse with the same woman with active secondary syphilis, became frightened on ascertaining that fact, and two of them consented to an injection of neo-arsphenamin; they remained free of disease. The third, who refused the injection, developed a primary lesion. The author gave three injections of novarsenobenzol to the wife of a patient who had a primary lesion on the penis, and who, in spite of advice to the contrary, had frequent sexual intercourse with her: she never developed the disease.

The book on the whole is a very interesting one, and the information gained by its perusal is well worth the time consumed. Monographs such as this are always of value, as they necessarily contain a mass of detail not usually found in a textbook devoted to the subject in all its aspects.


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SYPHILOLOGY


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LABORATORY AND CLINICAL STUDIES BEARING ON THE CAUSES OF THE REACTIONS FOLLOWING INTRAVENOUS INJECTIONS OF ARSPHENAMIN AND NEO-ARSPHENAMIN

SECOND COMMUNICATION *

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CHARLES WEISS, Ph.D.

PHILADELPHIA

INTRODUCTION

Since the introduction of the organic arsenicals in the treatment of syphilis, great interest has been manifested in the study of the systemic reactions following the use of arsphenamin and neo-arsphenamin, as well as in the underlying causes of these reactions. A considerable literature has grown up on this subject—much of it of a controversial character. While considerable light has already been shed, many practical and important phases of the problem are still obscure. These studies were undertaken with the view of aiding in the clarification of this complicated subject.

The literature concerning the earlier investigations need not be given in detail, as it has been reviewed by many writers. The more recent and meritorious studies of Danysz1 are deserving of careful thought. In 1917 Danysz published his ingenious "precipitation hypothesis" as an explanation of the causes of reactions following arsphenamin and neo-arsphenamin. He states:

A short time after the injection of a disodium solution of arslenobenzol (arsphenamine) this compound loses the sodium which combines with the free carbonic acid forming sodium bicarbonate, leaving the arslenobenzol as an insoluble base. At the same time part of the arslenobenzol which remains as a mono- or disodium salt combines with the calcium phosphates, also producing

* From the Dermatological Research Laboratories, Philadelphia, Pa.
* Presented before the American Dermatological Association, Atlantic City, N. J., June 14, 1919.
an insoluble compound. The presence in the blood of free oxygen and sodium chloride hastens these transformations, while the organic bases contained in the plasma form with the insoluble deposit new soluble compounds.

In other words, Danysz advances the hypothesis that carbon dioxid and the sodium bicarbonate of the blood change arsphenamin into an insoluble base which is carried in the circulation until dissolved by the leukocytes and organic bases of the plasma. The biphosphates of calcium, sodium and magnesium, as well as the chlorids and iron salts of the blood, are alleged to behave similarly. Danysz regards the immediate effects of arsphenamin injections ("réactions du premier degré") as due not to the toxicity of the drug, but to emboli caused by precipitates resulting from the presence of an excess of certain inorganic ingredients in the blood.

Experiment No. 1. Four solutions of luargol (a salvarsan-silver antimony compound) are prepared. No. 1 is a monosodium salt; No. 2 contains 1.5 molecules of sodium; No. 3 is the disodium salt; No. 4 contains half a molecule of sodium in excess of the disodium salt. From these solutions are prepared 1 : 5,000 dilutions in distilled water to which is added NaCl, 8 parts per 1,000, and biphosphates of calcium, 1 part per 10,000. The solutions are exposed to the air.

Solution No. 1 becomes turbid in a few minutes; solution No. 2 only after twenty minutes; solution No. 3 after five or six hours; solution No. 4 after twelve hours. When similar solutions are injected rapidly (in one minute) into the vein of rabbits, solution 1 produces fatal embolism in a dose of 0.1 to 0.2 mg. per kilo, whereas solutions 2, 3 and 4 are harmless in these doses.

Danysz concludes that the same product can be more or less toxic according as it precipitates more or less rapidly from its solution.

That calcium biphosphate in certain concentrations will precipitate solutions of monosodium arsphenamin in the test tube, or that unstable or turbid solutions will produce embolism is easily demonstrable. But to conclude from this experiment that an increase in the calcium biphosphate and other electrolytes in the blood is the cause of the immediate reactions is a supplementary assertion, which is not, in our opinion, borne out by the facts. Indeed, Jackson and Smith injected intravenously into dogs large doses of various calcium salts and phosphates followed by arsphenamin without in any way increasing the toxicity of the latter. Of interest in this connection is the recent work of Lyman showing that the calcium content of human blood is quite constant even in pathologic conditions. Jackson and Smith have also studied the effect of an increased carbon-dioxid content of the plasma on the toxicity of arsphenamin. They have permitted dogs to rebreathe

the expired carbon-dioxid and have observed no influence on the toxicity of the arsphenamin injected, as long as sufficient oxygen was given. The work of Frothingham has, moreover, established the fact that there is no increase in the plasma of bicarbonates in syphilis (and hence no acidosis). An important point not to be overlooked is that the rabbit is unsuitable for the study of this problem, being a herbivorous animal and having a metabolism which is different in many respects from the carnivorous.

From these considerations it is difficult to see, as Rieger has also indicated, how the carbon-dioxid of the blood can abstract sodium from alkaline arsphenamin when it is injected intravenously, even though it may do so in the test tube.

In order to throw further light on this important problem, we have carried out a series of experiments, here recorded, which were designed to determine the verity of Danysz's hypothesis. We have incidentally brought to light a few interesting biologic and chemical properties of arsphenamin and neo-arsphenamin.

**EXPERIMENTAL WORK**

A. The Alkalinity of Arsphenamin and of Neo-arsphenamin.—As a method of orientation we studied the degree of alkalinity of arsphenamin as a possible source of its toxicity. This subject has already been extensively studied by Fleig, Queyrat, Danysz and others. Solutions of acid arsphenamin form a precipitate with serum and hemolyzes red blood cells in vitro; they produce embolism and death on intravenous injection into rabbits. Alkaline (disodium) arsphenamin does not precipitate with serum in vitro and will not produce embolism when injected intravenously into rabbits, but will hemolyze red blood cells in vitro. Fleig states that the phenomenon of precipitation in vitro occurs with disodium arsphenamin, but to a feeble degree than with solutions less alkaline. Joseph states that precipitation in vitro never occurs with the use of alkaline solutions.

Jackson and Smith regard the fall of blood pressure following the intravenous injection of alkaline arsphenamin into dogs as due to the alkali.

The importance of the proper neutralization of arsphenamin has been repeatedly referred to in the literature. Our own observations, as illustrated by the following experiment, emphasize this necessity.

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Experiment 1: April 7, 1919. 1 per cent. solutions of arsphenamin were prepared in doubly distilled water. Solution A was not neutralized—it represented acid arsphenamin. Solution B was neutralized with sodium hydroxid up to the point of clearing. This is monosodium arsphenamin. Solution C was neutralized in the same way as B and then one-third of the volume of the sodium hydroxid solution already used was added in excess. This is disodium arsphenamin.

The reason for this nomenclature is fully set forth by Danysz.\(^1\) It will perhaps be advisable to indicate here briefly that the presence of two hydroxyl groups and two hydrochlorid groups in the arsphenamin molecule makes it necessary to add four molecules of sodium hydroxid to the acid solution before the latter can be considered completely "neutralized." This is done in practice as described in the preparation of solution C.

\[
\text{Formula of "acid" arsphenamin.}
\]

Each of the above solutions was sealed in a glass ampule in the absence of air and stored in a dark place for several weeks. After a few days the monosodium arsphenamin had turned a ruby red color and finally precipitated after two weeks' standing. The red solution on intravenous injection into white rats, was found to be much more toxic than the disodium arsphenamin which had remained clear and unchanged.

Monosodium arsphenamin becomes more toxic on standing than disodium arsphenamin. Neo-arsphenamin solutions are also unstable, turning to an orange-red color and precipitating in the sealed ampule after a few days. These experiments clearly emphasize the importance of the proper neutralization of arsphenamin before intravenous administration.

An attempt was also made to correlate the exact degree of the alkalinity of solutions of arsphenamin and of neo-arsphenamin (as indicated by their hydrogen-ion concentration), with their toxicity. For this purpose the colorimetric method of Sörensen\(^9\) as modified by

---

Clark and Lubs\textsuperscript{10} was used. No conclusive data could be obtained. The $p_H$ (hydrogen-ion concentration) of various lots of neo-arsphenamin is uniformly between 7.0 and 7.4, or practically the same as that of the blood. Acid-arsphenamin has $p_H = 4.7$, while the alkaline solutions are beyond $p_H = 9.0$. It was also observed that the decomposition of arsphenamin and neo-arsphenamin on exposure to the air is not accompanied by a change in their hydrogen-ion concentration.

**B. The Reaction of Arsphenamin and Neo-arsphenamin with the Salts of the Blood (the Hypothesis of Danysz).—**Having established a criterion for the correct method of neutralizing arsphenamin solutions, we tested some of the points involved in the hypothesis of Danysz. For this purpose a series of solutions containing the various inorganic and organic ingredients in the exact concentrations in which they occur normally in the blood,\textsuperscript{11} were prepared in doubly distilled water. A "synthetic blood," containing many of the available organic and inorganic constituents in a menstruum of 0.5 per cent. egg albumin was also prepared. In order to determine the possible effects of increased concentration of electrolytes, we made similar solutions in concentrations twice that in which they occur in the blood.\textsuperscript{12} The tests were arranged as follows:

Four series of test tubes of several rows each were prepared. The various solutions were pipetted in constant doses of 2 c.c. each. Acid arsphenamin and neo-arsphenamin were then added in increasing doses and the tubes were incubated in the water bath at 37 C. for one hour and observed for the occurrence of precipitates. The results recorded in tables 1 and 2 indicate that:

1. The phosphates of calcium, magnesium, sodium and potassium in the concentrations in which they occur normally in the blood, do not precipitate alkaline solutions of arsphenamin or neo-arsphenamin, either when tested alone or in the presence of the other inorganic and organic ingredients of the blood.

2. Sodium bicarbonate alone forms a faint flocculation with minute amounts of disodium arsphenamin, but the precipitate dissolves readily with the addition of greater amounts of the latter.

3. Acid arsphenamin precipitates very readily in the presence of many of the inorganic salts of the blood; the precipitate, however, disappears when an excess of arsphenamin is added.


\textsuperscript{12} We are indebted to Mr. Joseph L. Gavron of these laboratories for assistance in carrying out some of these experiments.
4. Solutions containing even double the blood content of inorganic salts in an organic and protein menstruum do not form any appreciable precipitates with disodium arsphenamin in vitro. A faint flocculation which occurs occasionally with the first drop of arsphenamin, disappears when the second has been added.

5. Neo-arsphenamin is not precipitated by any of the organic or inorganic salts of the blood.

**TABLE 1.—Experiments on the Danysz Hypothesis**

<table>
<thead>
<tr>
<th>Solutions</th>
<th>Parts per 1,000</th>
<th>Doses of Acid Arsphenamin</th>
<th>Doses of Monosodium Arsphenamin</th>
<th>Doses of Disodium Arsphenamin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium acid phosphate</td>
<td></td>
<td>0.1 0.5 1.0 2.0</td>
<td>0.1 0.5 1.0 2.0</td>
<td>0.1 0.5 1.0 2.0</td>
</tr>
<tr>
<td>Sodium phosphate</td>
<td></td>
<td>++ ++ ++ ++</td>
<td>++ ++ ++ ++ ++ ++ ++ ++ ++ ++</td>
<td></td>
</tr>
<tr>
<td>Potassium phosphate</td>
<td></td>
<td>++ ++ ++ ++ ++ ++ ++ ++ ++</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magnesium acid phosphate</td>
<td></td>
<td>± ± ± ± ± ± ± ± ± ±</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All four phosphates</td>
<td>Blood concentration</td>
<td>++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ --</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
in vitro or in vivo. We are rather inclined to believe that when arsphenamin is properly neutralized, that is, when disodium and not monosodium arsphenamin is injected, precipitation in vivo does not take place. But we have even stronger evidence in the case of neo-arsphenamin. This drug, even in 40 per cent. concentration, does not precipitate with serum or with any of the constituents of the blood; in proper dilutions (see above) it is not hemolytic; its acidity is like that of the blood \( \text{pH} = 7.0 \) to \( 7.4 \). Yet severe reactions have followed its administration in certain cases. Other factors must therefore be considered therewith.

**TABLE 2.—Experiments on the Danysz Hypothesis**

<table>
<thead>
<tr>
<th>Solutions</th>
<th>Parts per 1,000</th>
<th>Doses of 1 per Cent. Water Solution of Neoarsphenamin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0.1</td>
</tr>
<tr>
<td>Calcium acid phosphate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium phosphate</td>
<td></td>
<td>0.192</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.286</td>
</tr>
<tr>
<td>Potassium sulphate</td>
<td></td>
<td>0.267</td>
</tr>
<tr>
<td>Magnesium acid phosphate</td>
<td></td>
<td>1.202</td>
</tr>
</tbody>
</table>
| All four phosphates
  | Blood concentration          |                |         |         |         |         |
|  | Double concentration         |                |         |         |         |         |
| Sodium bicarbonate                |                | 1.10    |         |         |         |
| Sodium carbonate                  |                | 2.20    |         |         |         |
| Potassium sulphate                |                | 0.231   |         |         |         |
| Potassium chloride                |                | 0.402   |         |         |         |
| Artificial blood                  |                | 0.205   |         |         |         |
|                                  |                | 0.410   |         |         |         |
|                                  |                | 2.002   |         |         |         |
|                                  |                | 4.124   |         |         |         |
|                                  |                | 0.022   |         |         |         |

Technic as in Table 1.

**C. The Precipitation of Arsphenamin with Human Serum in Vitro.**

We have thought it advisable to reinvestigate this problem because of the importance which Berman\(^3\) has attached to it in a recent publi-

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Acid, monosodium, disodium and neo-arsphenamin solutions were incubated with human serum in the water-bath at 37 C.

The following observations were made (see Table 3):

1. Acid solutions of arsphenamin in a concentration of 0.25 per cent. or greater, will precipitate in the presence of human serum in vitro.

2. Disodium arsphenamin is not precipitated.

3. Monosodium arsphenamin is precipitated when added in very small doses to human serum, the precipitate disappearing with the addition of large amounts of the alkali itself.

4. When arsphenamin is dissolved in physiologic salt solution instead of distilled water, the results are not appreciably different.

5. Neo-arsphenamin, even in 40 per cent. solution, is not precipitated in the presence of human serum.

### Table 3—Precipitating Action of Human Serum on Arsphenamin and Neo-arsphenamin

<table>
<thead>
<tr>
<th>Lot No.</th>
<th>Reaction</th>
<th>Solvent</th>
<th>Percentage of Solution</th>
<th>Doses of Drug</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.2</td>
</tr>
<tr>
<td>2327</td>
<td>Acid</td>
<td>Water</td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td>2527</td>
<td>Acid</td>
<td>Water</td>
<td>1</td>
<td>S</td>
</tr>
<tr>
<td>2327</td>
<td>Acid</td>
<td>Water</td>
<td>0.5</td>
<td>S</td>
</tr>
<tr>
<td>2327</td>
<td>Acid</td>
<td>Water</td>
<td>0.25</td>
<td>S</td>
</tr>
<tr>
<td>2327</td>
<td>Monosodium</td>
<td>Water</td>
<td>0.5</td>
<td>F</td>
</tr>
<tr>
<td>2327</td>
<td>Monosodium</td>
<td>Water</td>
<td>0.25</td>
<td>F</td>
</tr>
<tr>
<td>2327</td>
<td>Monosodium</td>
<td>Water</td>
<td>2</td>
<td>F</td>
</tr>
<tr>
<td>2327</td>
<td>Monosodium</td>
<td>Water</td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td>2327</td>
<td>Monosodium</td>
<td>Water</td>
<td>1</td>
<td>S</td>
</tr>
<tr>
<td>2327</td>
<td>Monosodium</td>
<td>Water</td>
<td>1</td>
<td>S</td>
</tr>
<tr>
<td>2327</td>
<td>Monosodium</td>
<td>Water</td>
<td>0.5</td>
<td>S</td>
</tr>
<tr>
<td>2327</td>
<td>Monosodium</td>
<td>Water</td>
<td>0.5</td>
<td>S</td>
</tr>
<tr>
<td>2327</td>
<td>Monosodium</td>
<td>Water</td>
<td>0.5</td>
<td>N</td>
</tr>
<tr>
<td>2327</td>
<td>Disodium</td>
<td>Water</td>
<td>2</td>
<td>VFP</td>
</tr>
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<td>1</td>
<td>VFP</td>
</tr>
<tr>
<td>2327</td>
<td>Disodium</td>
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<td>VFP</td>
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<td>2327</td>
<td>Disodium</td>
<td>Water</td>
<td>0.25</td>
<td>VFP</td>
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<tr>
<td>Neo 133</td>
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<td>4</td>
<td>N</td>
</tr>
<tr>
<td>Neo 133</td>
<td>Neutral</td>
<td>Water</td>
<td>2</td>
<td>N</td>
</tr>
<tr>
<td>Neo 133</td>
<td>Neutral</td>
<td>Water</td>
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<td>N</td>
</tr>
<tr>
<td>Neo 133</td>
<td>Neutral</td>
<td>Water</td>
<td>0.25</td>
<td>N</td>
</tr>
<tr>
<td>Neo 231</td>
<td>Neutral</td>
<td>Water</td>
<td>40</td>
<td>N</td>
</tr>
<tr>
<td>Neo 231</td>
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<td>N</td>
</tr>
<tr>
<td>Neo 231</td>
<td>Neutral</td>
<td>Water</td>
<td>30</td>
<td>N</td>
</tr>
</tbody>
</table>

*S P = strong precipitation; M P = marked precipitation; F P = faint precipitation; N P = no precipitation. Constant dose of serum (2.0 c.c.) was used.

Rowe observed in 1916 that there is an increase in the globulin fraction of the serum proteins in certain syphilis. Berman suggested that this increase may lead to their precipitation in vivo after the administration of arsphenamin.

We have repeated the experiments of Berman on a small series of our patients and have found that the slight opalescence (which occasionally occurs upon the addition of arsphenamin to the patients' serums in vitro) will clear up if the arsphenamin is correctly neutralized. We are, however, investigating this problem more intensively by refractometric methods.

D. The Hemolytic Activity of Arsphenamin and Neo-arsphenamin. —Since neither the hypothesis of Danysz nor of Berman will satisfactorily explain all of the cases of nitritoid reactions following intravenous injections of arsphenamin or neo-arsphenamin, we sought to ascertain to what extent other factors might play a rôle in this phenomenon.

The reports of Cavina,15 Queyrat,7 Sanes and Kahn,16 and others of the occurrence of jaundice, urobilinuria and hematoporphyrinuria after arsphenamin administration, led us to study the hemolytic properties of this drug and of neo-arsphenamin.

The results of these experiments, recorded in Tables 4 and 5, show that:

1. Both acid and alkaline aqueous solutions are strongly hemolytic for defibrinated blood. The use of physiologic salt solution instead of distilled water as a solvent does not appreciably influence the results.

2. The hemolytic activity of arsphenamin varies with its concentration, but it is not directly proportional to it.

3. Neo-arsphenamin dissolved either in water or in physiologic salt solution, in concentrations ranging from 2 to 4 per cent., is not hemolytic for defibrinated blood, but will hemolyze the more fragile, washed erythrocytes in 1 per cent. suspension.

4. Very dilute solutions of neo-arsphenamin (0.5 per cent.) are strongly hemolytic for defibrinated blood when dissolved in distilled water but not in physiologic salt solution.

5. Highly concentrated solutions of neo-arsphenamin (30 to 40 per cent.) in distilled water are strongly hemolytic; 20 per cent. solutions, only slightly so.

DISCUSSION OF THE CAUSES OF IMMEDIATE REACTIONS

A. Acid Solutions.—The precipitation hypothesis of Danysz offers a satisfactory explanation of the cause of immediate reactions following the administration of acid or unneutralized solutions of arsphenamin. The drug is precipitated in the blood and is carried to the lungs where it causes embolism. If the solution is concentrated, death commonly results; if the patient lives, a bronchopneumonia is apt to develop.

**TABLE 4.—Hemolytic Activity of Arsphenamin**

<table>
<thead>
<tr>
<th>Lot No.</th>
<th>Reaction</th>
<th>Solvent</th>
<th>Percentage of Solution</th>
<th>Blood Used</th>
<th>Doses in C.c.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.1</td>
</tr>
<tr>
<td>2357</td>
<td>Acid</td>
<td>Water</td>
<td>2</td>
<td>D</td>
<td>B</td>
</tr>
<tr>
<td>2357</td>
<td>Acid</td>
<td>Water</td>
<td>1</td>
<td>D</td>
<td>B</td>
</tr>
<tr>
<td>2357</td>
<td>Acid</td>
<td>Water</td>
<td>0.5</td>
<td>D</td>
<td>B</td>
</tr>
<tr>
<td>2357</td>
<td>Monosodium</td>
<td>Water</td>
<td>2</td>
<td>D</td>
<td>B</td>
</tr>
<tr>
<td>2357</td>
<td>Monosodium</td>
<td>Water</td>
<td>1</td>
<td>D</td>
<td>B</td>
</tr>
<tr>
<td>2357</td>
<td>Monosodium</td>
<td>Water</td>
<td>0.5</td>
<td>D</td>
<td>B</td>
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<tr>
<td>2357</td>
<td>Monosodium</td>
<td>Water</td>
<td>0.25</td>
<td>D</td>
<td>B</td>
</tr>
<tr>
<td>2390</td>
<td>Monosodium</td>
<td>Water</td>
<td>2</td>
<td>S</td>
<td>X</td>
</tr>
<tr>
<td>2390</td>
<td>Monosodium</td>
<td>Water</td>
<td>1</td>
<td>S</td>
<td>X</td>
</tr>
<tr>
<td>2390</td>
<td>Monosodium</td>
<td>Water</td>
<td>1</td>
<td>S</td>
<td>X</td>
</tr>
<tr>
<td>2390</td>
<td>Monosodium</td>
<td>Water</td>
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<tr>
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<td>Monosodium</td>
<td>Water</td>
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<td>S</td>
<td>X</td>
</tr>
<tr>
<td>2390</td>
<td>Monosodium</td>
<td>Salt</td>
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<td>S</td>
<td>X</td>
</tr>
<tr>
<td>2390</td>
<td>Monosodium</td>
<td>Water</td>
<td>1</td>
<td>S</td>
<td>X</td>
</tr>
<tr>
<td>2390</td>
<td>Monosodium</td>
<td>Salt</td>
<td>1</td>
<td>S</td>
<td>X</td>
</tr>
<tr>
<td>2390</td>
<td>Monosodium</td>
<td>Water</td>
<td>0.5</td>
<td>S</td>
<td>X</td>
</tr>
<tr>
<td>2390</td>
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<td>D</td>
<td>B</td>
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<tr>
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<td>Disodium</td>
<td>Water</td>
<td>1</td>
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<tr>
<td>2397</td>
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<td>B</td>
</tr>
<tr>
<td>2397</td>
<td>Disodium</td>
<td>Water</td>
<td>0.25</td>
<td>D</td>
<td>B</td>
</tr>
</tbody>
</table>

* Physiologic salt solution.

**TABLE 5.—Hemolytic Activity of Neo-Arsphenamin**

<table>
<thead>
<tr>
<th>Lot No.</th>
<th>Solvent</th>
<th>Percentage of Solution</th>
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S = 1 per cent suspension of washed human red blood cells, 1 c.c.; DB = 1 drop, 0.05 c.c. of freshly defibrinated human blood. Methemoglobin production accompanied each case of hemolysis.
MacKee\textsuperscript{17} in 1912 showed that the intravenous injection of arsphenamin in acid solution produced a precipitate, and caused a reaction in the patient which was proportional to the concentration of the solution and the rate of injection. He further demonstrated that in vitro the precipitate varied directly as the acidity and the concentration.

It has been shown by Auer\textsuperscript{18} that the toxicity of acid solutions of arsphenamin is proportionate to their concentration. Joseph\textsuperscript{19} demonstrated that acid solutions produce a precipitate in the blood which may actually be seen in the lungs and in the right ventricle of experimental animals. He assumed that emboli might develop in the capillaries of the lungs. Von Miessner\textsuperscript{19} found on necropsy thromboses in the lungs of cattle suffering from hoof and mouth disease that had received acid solutions of arsphenamin. The alkaline solutions even in strong concentration did not produce precipitates. In a later communication Joseph\textsuperscript{19} published experiments on the influence of acid solutions of arsphenamin on the blood in the test tube. One tenth of one per cent. solutions had no effect on the consistence of the blood, but in a concentration of one per cent. (0.6 gm. in 60 c.c.) or more, the precipitate may be so pronounced as to cause the blood to lose its fluid nature. Experiments carried out by Schamberg, Raiziss and Kolmer\textsuperscript{20} indicate that non-neutralized or acid solutions of arsphenamin in 0.5 to 1 per cent. concentration are 50 to 60 per cent. more toxic in the white rat than the alkaline solution. In experimental animals, emboli can be clearly seen in the smaller veins and arterioles of the lungs (see photographs). Instances have also occurred in which symptoms followed by bronchopneumonia have developed in a series of cases, as in the groups reported by Schwerdtfeger and Tinker,\textsuperscript{21} in which an alkaline solution of arsphenamin was administered in concentrated solution (about 0.5 gm. in 20 c.c.) the solution being presumably neutralized after the method of Ehrlich, namely, to the point of producing a clear solution. One can be quite sure that a precipitation of the drug in the blood took place, with embolism in the lungs, otherwise bronchopneumonia, with immediate cough and cyanosis, could not have been produced.

We have information concerning another group of cases (five in number) in which five full doses (0.6 gm.) of arsphenamin were mixed together and administered in 50 c.c. of water to each of five female patients. The physician (who was a new intern in a hospital) thought the solution was not as clear as it should have been, and being in doubt

\textsuperscript{17} Mackee, G. M.: Jour. Cutaneous Dis. 30:199 (April) 1912.
\textsuperscript{19} Von Miessner: Deutsch. med. Wchnschr. 37:491, 1911.
\textsuperscript{21} Schwerdtfeger and Tinker: Am. J. Syphilis 3:398 (July) 1919.
as to the neutralization, added a few drops of a 10 per cent. solution of hydrochloric acid. Four of the patients had violent reactions, with rising temperature to 102 F., persistent vomiting, tachycardia and marked prostration. Râles developed in the chest, and there were marked substernal pains, exaggerated on breathing, and other symptoms of bronchopneumonia. The fifth patient exhibited no unfavorable symptoms while the dose was being administered, but when the patient rose from the table and took a few steps, she collapsed and died in a short time.

We have likewise a report of a death and several serious reactions with bronchopneumonia following the injection of a relatively concentrated monosodium solution of arsphenamin. Four ampules of 0.6 gm. arsphenamin were dissolved in 240 c.c. of water. A woman, aged 59, received 0.4 gm. About fifteen minutes after the injection she became short of breath and nauseated. She died one and a half hours after the injection in shock.

Another woman received 0.4 gm. from the same solution and did not exhibit symptoms until six hours later. Two men received 0.6 gm. One became short of breath soon after the injection. The other did not show symptoms until two hours later. These three patients developed shortness of breath, epigastric pain, nausea and some vomiting. They were fairly comfortable throughout the night but the next morning exhibited signs of beginning pneumonia; difficult breathing, cough, fever and a leukocytosis of from 17,000 to 23,000. The pneumonia lasted ten days and ended in recovery. As in the other cases referred to, we have here an embolism pneumonia, probably due to intravascular precipitation of the drug (0.4 gm. of monosodium arsphenamin was administered in 60 c.c. of water).

A physician in the West (in the fullness of his ignorance) communicated that he was able to produce a clear solution of arsphenamin without the addition of alkali. He therefore saw no necessity for using it. He stated that his patient had had no reaction whatsoever. Fortunately for the physician and the patient, 300 c.c. of water were used; this great dilution of the acid solution was the providential safeguard against a serious and perhaps fatal accident.

The clinical picture of pulmonary embolism after intravenous injections of the organic arsenicals is marked by a dominance of chest symptoms—severe pain in the chest, cough, cyanosis and collapse; other elements of the nitritoid reaction may, however, be associated. These may be flushing, localized edema of the skin or mucous membranes and pronounced apprehension.

B. Concentrated Solution of Monosodium Arsphenamin (Arsphenamin Neutralized After the Manner of Ehrlich).—The cases of bronchopneumonia reported by Schwerdtfeger and Tinker, after the
injection of concentrated alkaline arsphenamin, indicate that administration of such solutions may under certain circumstances lead to precipitation in the blood and the development of a bronchopneumonia. The three causative factors in such cases would appear to be the concentration of the solution, the insufficient alkalinization and possibly too rapid injection. There is every reason to believe that a plentiful dilution would prevent such a reaction. It is probable also that an extremely slow and interrupted administration might avoid the difficulty. It is likewise probable that the use of a disodium arsphenamin, if not injected too rapidly, would prevent precipitation in the blood.
The immediate reaction, then, following the use of an acid arsphenamin solution or a concentrated monosodium arsphenamin solution, can be attributed to intravascular precipitation of the drug, with the production of multiple pulmonary emboli. Thus far the Danysz hypothesis is most satisfactory.

_Neo-arsphenamin._—There is no evidence that neo-arsphenamin is ever precipitated in the blood. Our experiments demonstrate that no precipitation occurs when solutions of neo-arsphenamin are brought in contact with an equal quantity of blood serum in the test tubes. If precipitation be invoked as the cause of the immediate reactions (including the pulmonary embolism reactions and the "nitritoid" reactions without evidence of pulmonary symptoms), then there should never develop reactions of this type after administration of neo-arsphenamin. But such reactions are by no means uncommon. What is the explanation?

This discussion would not be frank if we did not immediately state that some of the most pronounced types of nitritoid reactions are seen after the injection of turbid or cloudy solutions of neo-arsphenamin. This turbidity means that some part of the drug is in fine suspension. This would appear to be a further confirmation of the theory of Danysz, as a precipitate exists in the fluid injection into the veins. Let us examine the resultant clinical picture.

Patients may first experience a sensation of tingling, stinging and burning over the cutaneous surface, the face and eyes become injected, and there may be swelling of the eyelids, lips or tongue. The patient complains of fullness and pain in the head, not infrequently nausea and an "all gone feeling." He feels as though he were going to die. Cramp-like pains in the abdomen and vomiting may be present. Some patients exhibit shortness of breath and cyanosis. The pulse becomes progressively weaker and may no longer be felt at the wrist. Syncope occurs and in rare cases convulsions. The patient presents an alarming ashy pallor and looks as though he were in extremis. Consciousness is as a rule soon regained, but the patient feels a pronounced lassitude and weakness. In rare instances, in debilitated or organically weakened patients, death may supervene. At times flushing may be absent and the symptoms may be chiefly those of collapse, much like shock. It would appear that a tremendous fall in blood pressure had taken place.

Cloudy solutions of neo-arsphenamin do not appear to give rise to symptoms particularly indicative of pulmonary embolism, and have not, to our knowledge, been followed by bronchopneumonia.22 Could a precipitate pass through the small arterioles of the lungs and produce

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22. Even after the severest "nitritoid" reactions following the injection of a cloudy solution of neo-arsphenamin, the patient does not experience any persistent symptoms.
emboli elsewhere? We leave the question for others to answer. The data which we have presented concerning the reactions following the use of cloudy solutions of neo-arsphenamin might be conceded to bear out Danysz's views, were it not for the fact that it is by no means rare to observe "nitritoid" reactions from the injection of perfectly clear solutions of neo-arsphenamin.

Fig. 2.—Thrombus in arteriole of lung following injection of acid solution of arsphenamin. Note curious structure of thrombus.

This is an observation that has been made by clinicians ever since the original German neo-salvarsan came into use. If intravascular precipitation of the drug is alleged to be the sole cause of the reactions in question and neo-arsphenamin is not precipitated in the blood, how can we account for the reactions?

Here Danysz invokes a supplementary hypothesis. He states "Novarsenobenzol (neo-arsphenamin) which is not influenced by carbonic acid, sodium bicarbonate and sodium chlorid, and which only forms compounds with sodium phosphate very slowly, is only pre-
cipitated in the blood stream under exceptional circumstances when the amount of phosphates in the blood is much higher than normal. Usually it is excreted without ever having become insoluble." We must respectfully submit that Danysz offers no experimental evidence of this assertion, and that the established facts in physiologic chemistry speak against it. Jackson and Smith, whom we have already quoted, actually injected into the veins of dogs large doses of phosphates, preceding the administration of arsphenamin, without in any manner increasing the toxicity of the drug. (It should be added that Danysz applied the above hypothesis with particular emphasis in connection with arsphenamin.) Furthermore, we have found that in the test tube neo-arsphenamin is not precipitated by any of the organic or inorganic salts of the blood. As the test tube experiments with acid arsphenamin solutions parallel the results observed in the living body, we may reasonably conclude that the same is true of neo-arsphenamin.

While the definite determination of the cause of the nitritoid and allied reactions is still not established, we are strongly of the belief that they relate to the drug. Clinicians of experience will all bear witness to the observation that certain lots of arsphenamin and neo-arsphenamin give a far higher incidence of nitritoid reactions than others. We do not believe that any physician with large experience in arsphenamin therapy would take issue with this statement. The incrimination of certain lots is reiterated again and again in medical journals. A published statement of Dr. John H. Stokes, head of the department of syphilology in the Mayo Clinic, Rochester, Minn., is striking evidence of this. Stokes writes as follows:

The question as to whether the entire phenomenon of allergic reaction to arsphenamin may be explained either by insufficient alkalinization of the solution or by peculiarities in the patient's blood serum can certainly not be regarded as completely settled. There remains to be explained the large body of observation on variations in the toxicity of arsphenamin itself. The proposal of Schamberg and his collaborators that there is a factor in the preparation of arsphenamin, an impurity of as yet unknown constitution, present in the drug, is not at all incompatible with an allergic explanation of the reaction. It is conceivable that it is not the arsphenamin base alone which precipitates, but the serum proteins as well, and that this precipitation of the serum proteins may be accomplished with especial ease even in comparatively normal persons, by a substance present as an impurity in the drug. No other satisfactory explanation can be found to my mind, for the extreme frequency of reaction to certain brands of the drug, and its extreme rarity under identical technical conditions in others. On my own service, in which the operators and the technic of operation remain unchanged for months and even years at a time, there can be no other satisfactory explanation for the fact that during 5,000 injections in which German preparations were used there were considerable periods when

scarcely a day passed without a nitritoid crisis, while in 7,000 subsequent injections in which arsenobenzol (Dermatological Research Laboratories) and novarsenobenzol-Billon have been employed, the nitritoid crisis has become so rare that we have been compelled to all but abandon the work necessary to confirm the results presented in this paper. We have, moreover, had the opportunity to observe the production of crisis by an accurately alkalinized but evi-

Fig. 3.—Thrombus in venule of lung following injection of acid solution of arsphenamin.

dently impure preparation used on the assurance of the manufacturers, in every one of five successive patients known not to present any personal idiosyncrasy to the drug. There can be little doubt in the mind of large users of arsphenamin that there is a factor of toxicity and a tendency to the production of anaphylactic response in certain preparations which cannot be explained in absolutely general terms, and is probably due to specific impurities.
Stokes is inclined to regard the nitritoid crisis as a form of anaphylactic shock and correlates the precipitation theory of Danysz with the newer conception that “anaphylactic shock may now be regarded as a change in the dispersion of the colloids of the blood serum.” He believes that the reactions in question are explicable on physiochemical grounds as the result of a precipitation of the drug from its colloidal solution, or of the colloids of the blood plasma by the drug or by an impurity. He furthermore states that the nitritoid crisis can apparently be inhibited by a previous injection of atropin (gr. $\frac{1}{50}$), which he believes supports the view that the reaction is a form of anaphylactic shock.

It will be recalled that Swift\textsuperscript{24} in 1912 carried out certain clinical and animal experiments which tended to indicate that the reactions following the use of the organic arsenicals might be of an anaphylactic character. A weighty observation against this view has been that nitritoid and allied reactions have at times developed after the first injection of the drug.

Berman\textsuperscript{18} believes that precipitation of arsphenamin in the blood may be determined either by insufficient alkalinization of the solution or by the presence of an increased protein or globulin content of the blood of syphilitics. He states that in 300 administrations of arsphenamin, there were eleven nitritoid reactions, and that the serum of these reacting subjects precipitated arsphenamin in vitro while that of nonreacting patients did not. We have carried out some studies along these lines, and while they have not been sufficiently extensive to permit definite deductions, our impression has been that they do not tend to confirm the views set forth by Berman.

We furthermore contend that the above theory does not elucidate the nitritoid reactions following the use of neo-arsphenamin, for neo-arsphenamin is not precipitated in the presence of blood serum.

*The Substance X Theory of the Cause of Nitritoid Reaction.—* In 1917, Schamberg, Kolmer and Raiziss,\textsuperscript{20} after an experimental study of the toxicity of arsphenamin, announced their opinion that the nitritoid crisis was due to an unidentified impurity in arsphenamin and neoarsphenamin to which, for purposes of convenience and easy reference, the designation of Substance X was given. In a publication on this subject this statement was made: “Different lots of arsphenamin and neoarsphenamine vary in respect to the frequency with which they induce the immediate vasomotor and vasoparetic reactions. Few or no reactions of this character occur after the use of certain lots of the drug, and on the other hand, other batches seem to be followed

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by an unusual incidence of such reactions... To be sure not all patients will exhibit vasoparetic reactions after the use of a poor product, nor will all remain free of these reactions after the employment of a relatively pure product. There are doubtless variations in susceptibility to Substance X and some patients will react against the minutest quantity, while others will do so only in the presence of a large amount.

One of the writers has used a lot of arsphenamin which could be given to the most susceptible subjects without inducing nitritoid reactions, while on the other hand another lot produced such reactions almost uniformly in patients who had previously tolerated the drug well. It is difficult to escape the conviction that a certain something which we have called Substance X, was present in the one compound and not in the other.

From further observations we are inclined to believe that Substance X is the result of a condensation or some other change in the amino group of arsphenamin. The presence of this impurity does not appear materially to increase the toxicity of the drug in experimental animals. Even in man the reactions produced are usually of an evanescent character. There is, to our knowledge, no method of determining the existence of Substance X by animal injections.

**SUMMARY AND CONCLUSIONS**

1. The ingenious theory advanced by Danysz that intravascular precipitation of the organic arslenicals is the cause of the reactions (particularly the nitritoid reactions) after intravenous injection is only in part true. It explains the well-known precipitation of solutions of acid arsphenamin and probably also concentrated solutions of monosodium arsphenamin (i.e., arsphenamin neutralized to the point of clearing). There is no adequate evidence, however, that precipitation occurs after the use of disodium arsphenamin (hyperalkaline solutions), and there is no evidence at all that neo-arphenamin is ever precipitated in the blood.

2. The mechanism which Danysz sets forth as the cause of the precipitation, namely, conversion of the sodium salt of the drug into the insoluble base through the interaction of the sodium salt with the carbonates, phosphates and other inorganic salts of the blood, is not supported by experimental evidence.

3. Experiments carried out by us indicate that the phosphates of calcium, magnesium, sodium and potassium in the concentrations in which they normally occur in the blood, do not precipitate alkaline solutions of arsphenamin and neo-arsphenamin in vitro, either when tested alone or in the presence of the other organic or inorganic constituents of the blood.
4. Sodium bicarbonate alone forms a faint flocculation with minute amounts of disodium arsphenamin, but the precipitate dissolves readily on the addition of greater amounts of the latter.

5. Acid arsphenamin precipitates readily in the presence of many of the inorganic salts of the blood; the precipitate, however, disappears when an excess of arsphenamin is added.

6. Solutions containing even double the blood content of inorganic salts in an organic and protein menstruum ("artificial blood") do not form any appreciable precipitates with disodium arsphenamin in vitro. A faint flocculation which occurs occasionally with the first drop of arsphenamin, disappears when the second drop has been added.

7. Neoarsphenamin is not precipitated by any of the organic or inorganic salts of the blood.

8. We believe that if arsphenamin is properly neutralized, that is, if the disodium and not the monosodium arsphenamin is injected, precipitation in vitro can scarcely take place.

9. Experiments on the precipitation of arsphenamin with human blood in vitro yielded the following results: (a) Acid solutions of arsphenamin in a concentration of 0.25 per cent. or more will precipitate in the presence of human serum in vitro. (b) Disodium-arsphenamin is not precipitated. (c) Monosodium arsphenamin is precipitated when added in very small quantities to human serum, the precipitate clearing on the addition of larger amounts, doubtless owing to the contained alkali. (d) When arsphenamin is dissolved in physiologic salt solution instead of distilled water, the results are not appreciably different. (e) Neo-arsphenamin even in 40 per cent. solution is not precipitated in the presence of human serum.

10. Experiments carried out on the hemolytic activity of arsphenamin and neo-arsphenamin demonstrate that: (a) Both acid and alkaline solutions of arsphenamin are strongly hemolytic for defibrinated blood. The use of physiologic salt solution does not especially influence the results. (b) The hemolytic activity of arsphenamin varies with its concentration, but is not proportional to it. (c) Neo-arsphenamin dissolved either in water or in physiologic salt solution, in concentrations ranging from 2 to 4 per cent., is not hemolytic for defibrinated blood.

11. The fact that arsphenamin is hemolytic in practically all of the concentrations in which it is employed and that neo-arsphenamin is not hemolytic except in very dilute solutions (0.9 gm. in 180 c.c. of water) or in extremely concentrated solutions (0.9 gm. in from 2 to 3 c.c.) sheds a degree of illumination on the relative manner in which these drugs are clinically tolerated. Another fact of importance is the hydrogen-ion concentration of these two compounds. The hydrogen-
ion concentration of neo-arsphenamin is 7.0 to 7.4 which is approximately that of the blood. That of acid arsphenamin is 4.7, while the alkaline solutions are beyond 9.

12. The injections of acid solutions of arsphenamin are prone to produce death, or if less concentrated, may lead to the development of a bronchopneumonia as a result of intravascular precipitation of the drug. Concentrated monosodium arsphenamin solutions may, under certain conditions, likewise cause death, or in the event of recovery cause an embolic bronchopneumonia. We have no knowledge that pneumonic symptoms have ever developed after the use of disodium arsphenamin, nor after the use of neo-arsphenamin.

13. The injection of cloudy or turbid solutions of neoarsphenamin will almost invariably give rise to severe nitritoid symptoms in which syncope and shock-like collapse are the outstanding features. No pulmonary symptoms follow. Neo-arsphenamin (and of course arsphenamin) should never be administered unless the solution is perfectly clear.

14. Nitritoid reactions may at times follow the injection of a clear solution of neo-arsphenamin. As neo-arsphenamin is never in our opinion precipitated in the blood, the elucidation of the cause of such reactions must be sought elsewhere.

15. Our studies lead us to reiterate the view previously expressed by us that the nitritoid reactions are related to some inherent property of the drug. In no other manner could the variation in the incidence of reactions with different lots and different brands of the drug be explained. We believe the cause to be traces of an unidentified impurity which for purposes of convenience and easy reference, we have designated Substance X.
NEUROTIC EXCORIATIONS

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NEW YORK

The modern use of the term neurotic excoriations is limited to traumatic lesions produced by a person without intent to deceive. Some of these persons appear to possess normal nervous systems; most of them are more or less neurotic, and a few are hysterical. The affection is more common in females than in males. It is usually encountered between the ages of 18 and 50.

At times the excoriations may be produced by the habit of picking at every slight elevation on the skin. This picking or digging may be quite unintentional and, in mild cases, it is limited to an unconscious habit of passing the hand over the face (and the scalp, if bald) while deeply absorbed in study, locating a little follicular plug and digging with the finger nail until an excoriation is effected. In the same way the reparative crust is repeatedly removed, healing is retarded and the lesion may persist for weeks or months, becoming perhaps indurated or infected, and finally, when left alone, disappearing spontaneously, often with scar formation. In these mild instances the habit, which is really unconscious, is overcome by remonstrations by members of the family before much harm is done.

THE MORE PRONOUNCED CASES

In the more pronounced cases the habit is not controllable and the person finds it difficult, if not impossible, to avoid picking at little islands of epithelial débris, follicular plugs, comedones, stubby hairs, acne lesions, milia, crusts, etc. The point to be emphasized in this type is that the patient has no reason, other than a nervous habit, for interfering with nature. It is the same kind of impulse that makes one bite the nails, chew the mustaches, bite the lips, suck the thumb, etc.

MANIA FOR REMOVING SUPPOSED FOREIGN BODIES

Another type is when the person has a mania for picking at lesions of various kinds for the purpose of promoting healing, to remove

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supposed foreign bodies, insects, etc. Unlike the former type there is here a definite reason for the act. As an illustration, a person becomes convinced that a milium body contains an insect. The lesion is opened and part of its contents removed, considerable excoriation being produced. A scab quickly forms, the uncomfortable feeling of which is supposed to indicate that the cause has not been overcome. The scab is then removed and little pieces of fibrous tissue and a little serum is obtained by picking and squeezing. Temporary mental rest is obtained, but soon the lesion feels again uncomfortable and the process is repeated over and over again until unsightly ulcers and scars are produced. The point to be emphasized here is that the person purposely injures the skin and has a definite reason for so doing, but there is no effort to deceive.

There is still another type of excoriation, namely, that associated with chronic itching dermatoses such as dermatitis herpetiformis, prurigo, chronic urticaria, pediculosus, etc. Here, however, there is no habit or mania, but simply vigorous attempts at relief from severe itching. Such cases cannot be classified as neurotic excoriations. On the other hand, there are instances, in neurotic individuals, in which the itching accompanying a mild urticaria or pruritus is markedly intensified by the peculiar temperament, and in which the scratching and digging is entirely out of proportion to the subjective symptoms. Such cases can very properly be classified under neurotic excoriations—a secondary type.

VARIOUS REASONS ASSIGNED FOR INJURING THE SKIN

Different persons have various reasons for injuring the skin, and this has led to the use of a number of terms in an attempt at dermatological designation. E. Wilson was the first to employ the term neurotic excoriations. Under this heading, as pointed out by Adamson, he included not only cases similar to the foregoing, but excoriations in hysterical women produced by rubbing with intent to deceive—true malingering. It is essential that a clear distinction be made between these two affections. Malingering (dermatitis factitia, dermatitis artefacta, dermatitis ficta, feigned eruptions) is when the person produces lesions by friction, with acids or in other ways, and denies the act. The lesions are caused to avoid work, to excite sympathy and for similar reasons. In the neurotic excoriations the patients may be unable to overcome the habit, but they readily admit the self-in infliction of the lesions and will always explain the reason, sometimes at great length and detail. There is never any attempt at deception and no effort to excite sympathy or to avoid work. In fact, most of these individuals earnestly welcome an attempt to aid them in overcoming the habit.
The name "acne urticata" was proposed by Kaposi to indicate a condition in which wheals and pruritic papules occur in neurotic persons and in which the incessant rubbing and scratching results in excoriations. Adamson, in discussing Kaposi's cases, makes a very good point when he suggests that the wheals and the papules, instead of being primary, may be secondary to the rubbing. The famous dug-out cases of Colcott Fox probably belong to this group. Whether or not these cases are really a form of urticaria, prurigo or some other affection, the facts are that there is itching which is either very severe or that slight itching is extremely annoying to the neurotic and even hysterical person, and that the excoriations and ulcers are produced in mild attempts to relieve the symptoms.

Brocq, under the title of excoriated acne (l'acné exsorée des jeunes filles) describes excoriations in young neurotic girls who have or who have had acne vulgaris. The picking may vary from a habit to a mania.

Adamson1 reviews the literature of neurotic excoriations and thus classifies the various types:

Group 1. Neurotic excoriations of hysterical women or malingerers (Wilson).

Group 2. Acne urticata (Kaposi) or dug-out excoriations (Fox).

Group 3. Excoriated acne (Brocq).

For clearness of definition it would seem preferable to omit entirely those cases falling under the heading of malingering and to include under the title of neurotic excoriations only those examples in which there is no intention to deceive.

In addition to the types already discussed, must be mentioned several other conditions that are not infrequently associated with excoriations and ulcers. Acarophobia is when the patient is convinced that he is infested with insects. There may be no lesions, but the individual will collect tiny particles of wool or cotton adhering to the skin, epithelial débris and even extraneous insects and exhibit them to the physician. In attempting to destroy and collect these supposed insects or to relieve imaginary symptoms produced by them, the skin is likely to be injured. Similar lesions may occur when extracting or breaking the hairs in trichotillomania (Besnier) and in trichokytophomania (Sutton). The term "dermatothlasia" was employed by Fournier to indicate a mania for scratching and rubbing various parts of the body. excoriations often resulting. Also in the literature one finds the terms "dermatitis gangrenosa," "pemphigus hystericus," "urticaria necroticans," and several others, but they all designate one of two types — either malingering or neurotic excoriations.

REPORTS OF CASES

Case 1.—A woman, aged 30; married; educated and well bred; distinctly neurotic. There was a single, round, deep, punched-out ulcer on the right cheek close to the ear, which had been present for two years. The ulcer was indolent. The floor was dry and glistening with no granulation tissue. The margin was sharply defined, abrupt and felt hard to the palpating finger. The lesion resembled a third-degree radiodermatitis and suggested, also, epithelioma. The most striking features were the dry base and freedom from granulations. When questioned the patient willingly admitted that she stood close to a mirror for several hours every day and removed pieces of granulation tissue with a pair of thumb forceps. The excuse for the digging was that when left alone the lesion would feel uncomfortable and that it always felt better after these daily operations. Furthermore, she believed that these tiny pieces of tissue were interfering with healing, that they represented the etiologic factor and that they were causing the uncomfortable sensation. She admitted that at times she felt that the incessant digging was preventing healing, but that she simply could not leave the lesion alone more than a few hours at a time. In spite of the fact that the ulcer had been present for two years her husband did not know of its existence. She had succeeded in hiding it by clever hair dressing. It was difficult to ascertain the reason for the original digging, but judging from the patient’s statements it was apparent that there was at first a milium body or a single acneiform lesion. There had never been more than this one lesion. In spite of the fact that the patient realized that discovery meant an end to domestic happiness, she could not stop the digging. After a few visits, during which time there was no improvement in the ulcer, the patient sought advice elsewhere. With the exception of this mania the patient was apparently normal.

Case 2.—A man, aged 40; intelligent; slightly neurotic. Fifteen years previously the patient had had a chancre and secondaries and had received injections of mercury salicylate for two years. One year previously he had developed an eruption on the right cheek which was diagnosed as syphilis, but it did not respond to arsphenamin and mercury. This lesion was still present at the time he first visited the author.

At first glance, at a distance, the diagnosis was an ulcerating, nodular syphilid. The entire lesion was palm sized and situated in the bearded region of the right cheek, over the mandible. It consisted of an area of pigmentation in which were a number of split-pea to dime-sized, punched-out ulcers, between which were numerous scars of the same size. On close inspection the ulcers were seen to be dry; the floors were glazed; there was no granulation tissue, and the margins were hardened. Here and there throughout the affected area were numerous connecting, serpentine, narrow grooves or gutters, about ¼ of an inch in width and ranging in length from ⅛ to ½ inch. These grooves had the same general clinical characteristics possessed by the ulcers except that they were not as deep. When accused the patient admitted picking and digging at the lesion and exhibited a pair of forceps and a small pocket mirror. He stated that he spent several hours daily removing small pieces of tissue but particularly in removing hairs. He felt convinced that “ingrowing hairs” was the cause of his trouble and he would daily dig deep into the tissue in a search for such hairs. It required some time to convince him that the lesion would heal spontaneously if left alone. Finally, however, he controlled his mania; the ulcers healed with scars, and the pigment disappeared.
Case 3.—A woman, aged 45; highly educated; very nervous and neurotic. The patient exhibited perhaps a hundred lentil to split-pea sized scars scattered over the forehead, cheeks and chin. There were numerous crusted nodules, excoriated papules and split-pea sized open and crusted ulcers. Also, there were numerous milium bodies. The patient admitted that each inflammatory lesion was originally a milium body. These bodies annoyed her because she thought they contained a worm and according to her statement they would never disappear nor would the inflammatory lesions heal until the worm was totally destroyed. Consequently she would dig for days, weeks and months until she was mentally satisfied, then the lesion would heal leaving a cicatrix. It was impossible to overcome her mania. The only way the inflammatory lesions could be avoided was to have the patient come to the office whenever a milium body appeared. But even after destruction of the milium the patient would often work at the wound and prevent healing. She was finally referred to a neurologist and when last seen there was some improvement.

Fig. 1 (Case 8).—Superficial, deep excoriations and scars.

Case 4.—An unmarried woman, aged 35; teacher; neurotic. This patient was an acarophobia. The evolution of each lesion was as follows: A sting is felt. On immediate examination nothing is seen, but after a few minutes a red punctum develops. Then, by the use of friction instruments (pin or needle) minute insects or pieces thereof can be obtained. The lesion rapidly develops from a punctum to a superficial, crusted excoriation the size of a split pea or a dime, with surrounding erythema. The condition had lasted about two months. Old lesions healed and new ones developed. When first seen there were twenty lesions in various stages of evolution and involution scattered over the body. The patient presented numerous specimens for microscopic study. These consisted of pieces of epidermis, pieces of crusts, blood
clots, etc. Among the specimens, however, were two insects, but these insects were not of the kind that bother the human race.

Case 5.—A married woman, aged 30; neurotic. The patient, a very intelligent woman, had an exceedingly mild type of what Engman and Mook call seborrheic acne—an oily skin with occasional acneiform lesions. She simply could not resist the temptation of digging at the papules with the result that there were always a few superficial and deep excoriations scattered over the face which, when finally left alone, would heal with resultant cicatrix. The reason for picking and squeezing was because temporary relief from the annoying symptoms could be obtained by releasing the contents of the lesion. About the best explanation that could be obtained relative to the subjective symptoms was that the lesions were uncomfortable. In spite of a real mental effort the patient could not leave her face alone. The roentgen ray was employed with the result that there was no further development of papules, but the patient

Fig. 2 (Case 8).—Absence of active lesions after the patient was able to control the mania, with the aid of the roentgen ray.

was always able to find something to dig at, not constantly, but somewhat periodically. When last seen she was free from lesions.

Case 6.—An unmarried woman, aged 22; student; not neurotic. The patient had an exceedingly mild acne with an occasional lesion. She would endeavor to open the lesions with the result that a small papule, comedone or pustule was converted into an unsightly inflammatory nodule or excoriation. Her face was quite badly scarred. She had no reason for the picking other than an attempt to remove the cause of the lesion. There were no subjective symptoms. When advised to do so, she ceased interfering with the lesions; local and hygienic measures cured the acne, and her troubles were at an end.
Case 7.—A married man, aged 50; intelligent business man; not neurotic. The patient had a habit, when reading, of running his hand over his forehead and scalp (bald) and picking at every slight obstruction, such as a stubby hair, a follicular plug, etc. Frequently this picking would result in a superficial excoriation. Then the crusts and scabs would be torn off repeatedly until inflammatory, slightly ulcerating nodules were formed. When first seen the eruption markedly resembled acne varioliformis and was treated as such. Later, when the true nature of the dermatosis was established, the simple expedient of wearing a cap of a size sufficient to cover the affected parts when reading terminated the trouble.

Fig. 3 (Case 9).—Lesions consisting of scars, pigmented macules, excoriations, crusts, pustules and ulcers. The eruption was generalized.

Case 8.—A man, aged 30; uneducated; neurotic. This case, in practically all its aspects, was similar to Case 5, except that the patient was able to control the habit or mania, especially with the aid of the roentgen ray (Figs. 1 and 2).
Case 9.—A woman, aged 35; uneducated; neurotic. The patient complained of various subjective symptoms such as itching, creeping sensations, etc., but her testimony was entirely unreliable. She admitted picking, digging and squeezing the lesions and gave all sorts of reasons for so doing. The lesions consisted of scars, pigmented macules, excoriations, crusts, pustules and ulcers.

Fig. 4 (Case 10).—Eruption similar to that exhibited in Figure 3, except that the ulcers were much larger.

The eruption was generalized. There was no attempt at deception, the digging being done for the purpose of relieving subjective symptoms. Therefore, it was not a case of malingering, and since there was no entity such as pediculosis, dermatitis herpetiformis, prurigo or other known chronic itching
Fig. 5.—Appearance of the arms and the upper back of patient in Case 10 (compare Fig. 4).
Fig. 6 (Case 11).—Eruption on the buttocks consisting of gyrate, pigmented, crustaceous and ulcerating lesions; similar lesions on the upper back.
affection, it would seem proper to place the case in the category of neurotic excoriations secondary, perhaps, to a mild generalized pruritus occurring in a neurotic subject (Fig. 3).

Case 10.—A married woman, aged 40; uneducated; neurotic. This patient's eruption was similar to that exhibited by Case 9, except that the ulcers were much larger (Figs. 4 and 5).

Case 11.—A woman, aged 40; uneducated; neurotic. The patient had an eruption on the buttocks consisting of gyrate, pigmented, crustaceous and

Fig. 7 (Case 12).—Eruption on abdomen, arms and thighs, consisting of scars, pigmented macules, crusts, nodules and ulcers.
ulcerating lesions, which resembled a syphilid. On the upper back there were similar lesions, but here there were numerous, parallel pigmented and crusted scratch marks. The patient admitted constantly digging at the lesions to obtain relief from severe itching (Fig. 6). The patient being exceedingly neurotic and as there was no definite disease entity, it seemed proper to place the case under the neurotic excoriations secondary, perhaps, to a pruritus of unknown origin.

Fig. 8 (Case 13).—Crusted excoriations and scars.

Case 12.—A private soldier, aged 23; neurotic; duration of eruption, six months; distribution: abdomen, arms and thighs. The dermatosis consisted of scars, pigmented macules, crusts, nodules and ulcers. The lesions were produced by digging with the finger nails and forceps for the purpose of obtaining insurance—a malingerer (Fig. 7).

Case 13.—A man, Italian, aged 40; uneducated, somewhat neurotic; a laborer. There were numerous irregular scars scattered over both cheeks, the chin and the forehead. There were a number of active lesions scattered over the face. These lesions were from split pea to dime size, edematous, inflammatory, eroded, exudative and crusted. There was some pigmentation. The duration of the
eruption was two years, but no lesion lasted more than a few weeks. The patient admitted digging with fingernails and squeezing with fingers to evacuate minute particles which he believed to be the cause of the lesions and to relieve burning, stinging and itching. After each operation the subjective symptoms were temporarily relieved. The patient was unable to point out or describe a beginning lesion (Fig. 8).

Case 14.—A man, aged 35: intelligent; slightly neurotic. There were a few typical lichen planus papules on the glans penis which did not itch. There was no other clinical evidence of lichen planus on the body. There were numerous

Fig. 9 (Case 14).—Excoriations occurring in lichen planus.
split-pea sized excoriations on the buttocks and thighs, many of which seemed to be excoriated papules or nodules. Clinically, the nodules seemed to be secondary to the scratching and excoriation. The patient insisted that the first sign of trouble was a pinhead size papule associated with intense itching and that scratching caused immediate excoriation. Careful inspection failed to reveal any early lesion that had not been excoriated by scratching. An early lesion was removed for microscopic study. The horny layer, where not excoriated, was thickened and incompletely keratinized — parakeratosis. The granular layer was markedly thickened. There was some acanthosis. Lacunae were present in the papillae, and in the center of the lesion there was a large vesicle occupying the space formerly the site of two or three papillae. There was a fairly marked lymphocytic infiltration which, at the margins of the lesion, occupied the papillary body, being pushed downward in the center by the vesicle. The microscopic picture was that of lichen planus with vesicle formation in the papillary body.

The microscopic findings were unexpected as, clinically, the lesions bore no resemblance to lichen planus, although the lichen planus papules on the glans penis suggested this possibility. The case must be considered as a bullous or pemphigoid lichen planus occurring in a somewhat neurotic subject, the true clinical appearance of the lesions being masked by early traumatism. Lichen planus must always be considered, therefore, when making a diagnosis of generalized neurotic excoriations (Fig. 9).

The question of diagnosis — differential diagnosis — is important. A perusal of the illustrative cases herein reported shows that neurotic excoriations may markedly simulate syphilis, tuberculosis, radiodermatitis, dermatitis herpetiformis, acne varioliformis, and other dermatoses. Care also must be taken to differentiate clearly between neurotic excoriations and malingering, and to exclude excoriations produced in attempts to relieve severe itching by individuals who are not neurotic.
NEUROTIC EXCORIATIONS WITH REPORT OF CASES

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There is considerable literature in dermatology on the subject of self-inflicted lesions of the skin. The cases fall into two groups:

Group 1.—Cases in which self-inflicted lesions are produced surreptitiously.

Group 2.—Cases in which the lesions are self-inflicted through a nervous impulse, but without deception being an essential factor in the practice.

The familiar types of dermatitis factitia constitute the first group of cases, and they need not detain us. The second group is sharply distinguished from the first by the fact that deception is not an essential feature. These patients know the part they play in the production of their lesions, or it can easily be determined from their histories. They readily admit that the lesions are self-inflicted, but they have a neurotic impulse which is quite or almost irresistible to continue in this practice. These cases have apparently had little recognition, and the dermatologic literature concerning them is scant. Adamson\(^1\) in the *British Journal of Dermatology*, calls attention to the subject and summarizes it.

THREE TYPES OF SELF-INFLICTED LESIONS

These cases have been described in the literature under many names. They can all be included under three types:

1. Neurotic excoriations (Wilson); dug-out excoriations (Colcott Fox).
2. Acne urticata (Kaposi); urticaria necrotisans (Waelsch).
3. Excoriated acne of young women (Brocq).

**TYPE I**

The neurotic excoriations of Wilson and the dug-out excoriations of Colcott Fox have a common origin; that is, the lesions are produced by rubbing the skin with the finger tips or scratching it with the finger nails.

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The history of the cases usually is that the patients have had their attention drawn to the skin by some disturbance of sensation, usually itching, or by the presence of an actual itching lesion, and the tendency to scratch or rub or otherwise injure the skin at these sites thus produced has developed into an irresistible impulse, so that excoriations after excoriations is produced from day to day. Details of numerous cases of this sort are found in the experience of Wilson, Fox, Adamson and others.

A survey of some fifteen cases of this type which have been reported shows that they occurred in persons whose ages varied from 13 to 49 years. Fourteen cases were female; one male. The duration of the condition varied from five weeks to thirteen months, and in most of the cases the trouble had been present at least six months. In nine cases some definite evidence of an unstable nervous system was present, varying from “easily upset nerves” to definite hysteria, or family history of insanity.

In four cases the author made no mention of the presence or absence of such signs, but in only two cases was it stated definitely that the patient was not of a neurotic or nervous temperament. The face, limbs and chest were the favorite sites, although any part of the body easily reached was involved, and in one case the entire body was covered with lesions. The number of lesions varied from a few to several hundred. The importance of itching in these cases is shown by the fact that in only four were no subjective symptoms complained of.

The common lesion in these cases consists of an oval excoriations, usually slightly elongated and about the width of a finger tip. As a rule, the excoriations are crusted, and many of the cases show pigmented spots or atrophic scars, the result of healed lesions. The English authors have been divided on the question of the etiology, some maintaining that in all cases there was a pruritic dermatosis preceding the excoriations, while others maintained that this was not true in all.

**Type 2**

The acne urticata of Kaposi less surely belongs to this group. Kaposi seems to have understood the character of these cases more clearly than most of his successors, for he calls attention to them as occurring as “wheal-like” lesions, and to the fact that the damage to the skin is produced by self-inflation. But the name that he gave it, “acne urticata,” is inept. As Kaposi intimated, the lesions occur as wheals; Waelsch concluded the disease is “A chronic recurrent urticaria with superficial necrosis,” and many other observers have called attention to the urticarial character of the lesions. A better name
for the condition would likely be "urticaria necroticans," as suggested by Waelsh. Numerous observers have reported necrosis in this condition as spontaneous, but Adamson suggests—and we think that Kaposi's description of his case upholds Adamson's view—that the necrosis in these cases is traumatic and a result of self-infliction.

Kaposi describes his case as occurring in repeated exacerbations of "pale red, wheal-like, very hard elevations, varying in size from that of a bean to that of a kreuzer, or larger." . . . "They may last for a few hours, or more usually from two to four days, and then spontaneously involute. Or, as a rule, on account of the extraordinary severe itching or burning, the patient scratches them with the finger nail, or with a needle, or point of a knife and then squeezes them, because no relief is felt, until serum and blood escape from the swollen papillae and rete." These lesions rapidly heal, "but the base and surrounding parts remain very hard and give rise to itching, tension and nervous restlessness, and the patient repeats the scratching and squeezing." This condition is manifestly not primarily a psychosis or a neurosis. It is rather essentially a dermatosis in which itching is so intense that the excoriations of the papules from scratching is a natural result.

**Type 3**

The excoriated acne of young women, of Brocq (l'acné excorée des jeunes filles), is the condition which we see in a moderate degree very frequently in young women with acne, who develop, through their anxiety over their disfiguration and their effort to cure their lesions, a nervous habit of producing excoriations in the skin by digging at the lesions. There is more or less of a nervous element in these cases, but it does not amount to a neurosis.

The cases that we present do not fall exactly into any of these groups, but are essentially of the same character as the cases of neurotic excoriations of Fox and Wilson.

**Report of Cases**

Case 1.—The patient, a married man, aged 42, a traveling salesman, is intelligent and alert, but nervous and restless. He presented himself for treatment of a disfiguring, scarring eruption of the face. The lower part of the face was very badly disfigured from deep, irregular or linear scars. On distant inspection the scarring looks as though it might have been produced by an extraordinary severe indurated acne. On close inspection, however, these scars are seen to be linear or stellate or oval, and manifestly represent the sites of previous wounds of the face, many of which had evidently been ragged or linear cuts. The area of the face below the level of the upper lip and extending down to the thyroid cartilage is furrowed by these scars. Underneath the chin are the most extensive scars, and here are several active lesions; the smallest a crusted, superficial ulcer of split-pea size; the largest an ulcer the size of a five cent piece, covered by a thick bloody crust. Most
Fig (Case 1).—Disfiguring scarring eruption.

Fig. 2 (Case 1).—Another view of patient in Case 1 showing extensive scars and several active lesions underneath the chin.
of the lesions are nodules with a lacerated or excoriated tip, such as one sees after an awkward effort to open a deep acne abscess. On removal of the crust from the large ulcer, the skin at one edge of the ulcer was found undermined to the extent that a probe could be introduced into the subcutaneous tissue, under the margin of the ulcer, for three quarters of an inch. In another place the patient had dug into several adjacent lesions until they were joined into a network of linear excoriations, covering an area about two inches in length.

The patient frankly admitted that these wounds were the result of his own digging at his skin. The small nodules found at the site of previous incisions would become uncomfortable, and he would get relief by cutting them open and digging out the material beneath. Usually he opened them with a razor or knife, and then, with a small knife blade or pair of tweezers, he worked into them, digging out hairs, fat or other normal constituents of the skin. His particular "bête noire" was buried hairs. The discomfort came on at night, and

![Image](image_url)

**Fig. 3 (Case 1).—Improved condition of patient in Case 1 after treatment.**

he thought he had almost ruined his eyes by standing under a bright electric light before a mirror and digging at his face. He had sought advice many times. He stated that he expected physicians to laugh at him when he told his story, but he thought he had a rare undescribed malady. One motive that led him to dig into the lesions was the relief that he got from cutting into them, but on close questioning he said the greatest discomfort in the lesion was in a few minutes after opening. Another motive was his belief that there was diseased tissue in them, the removal of which was necessary in order to get relief and before a cure could take place.

His wife, who came in independently of him, confirmed his entire story. He would stand in the middle of the night before the mirror as much as five hours at a time digging at his face. He had lost so much sleep in this way that he had become unable to hold his position. According to his wife's statement, he had one paternal and one maternal aunt who were in asylums for the insane.
The suggestion to excoriate the skin probably began in his case through the occurrence of some itching or otherwise uncomfortable lesions about the skin, probably inflammatory papules, as a result of close shaving. At the time that we saw the patient, his skin showed numerous inflammatory nodules, at the site of previous traumatisms, which might furnish sufficient discomfort to recall the suggestion continually.

Case 2.—A patient of F. G. Harris, by whom he was referred to us for this examination, and through whose courtesy we publish this case report, was a man aged 46, who looked much older—a millwright by occupation. As a young man he had "pimples" about the face and back, and for six or seven years after he was 25, he had many boils. When he was about 40 he began to notice that he could feel hard lumps of varying size deep in the skin. According to his description, these never came to a head, but became covered with a scab which would be loosened by a watery discharge. Then he began to dig at these lumps and the habit had grown on him for six years. He digs into them with his finger nails; occasionally with a pair of scissors. Sometimes, according to his statement, he digs down one half inch or more. He obtains "little white eggs," and there is at the bottom of the excoriations a "greenish scum" which is very painful when touched. He is positive that he feels small lumps in the skin at the points of severe itching, and that the only way he can get relief is to dig until he has succeeded in extracting the substance that forms the nodes. He readily points out an itching spot where he can feel one of the lumps but nothing can be found by us at the site.

The face shows numerous jagged, irregular linear scars, mostly on the cheeks and chin but some on the forehead and scalp. On the left cheek there is a kidney-bean sized excoriating covered by a dirty yellow crust; on the left side of the forehead a similar lesion twice as large. There are numerous small excoriations. There are similar scars and a few excoriations on the neck and arms and sparsely on the trunk. Similar lesions are also found on the legs, especially about the ankles. In addition, there is some spontaneous folliculitis on the arms and the legs, such as one would expect to find associated with infected lesions of these parts. It is rather a notable fact that in this case nearly all of the active lesions are on the left side of the body. The patient complains of fugitive pains, is depressed and restless, and has an impassive, expressionless face. It is evident that our attempts to explain his trouble to him make no impression on him. Altogether he presents more distinct evidences of psychosis than the other two patients.

Case 3.—A widow, aged 58, nervous and unstable. On the arms and legs, across the shoulders and over the sacral region, is a profuse eruption of hard inflammatory papules and nodules up to the size of a hazelnut kernel. Many of them are excoriated; some of them are covered with a pus crust, and among them are numerous linear excoriations. She claims that the nodules did not itch, but that they sting and bite. The eruption began last September when, according to her report, she got up one morning and found it substantially of its present extent. She readily agrees that the breaks in the skin are due to her scratching, but explains that this is necessary because she had parasites in the skin which she scratched out in order to get relief. She thinks that the material she gets out of the skin with her fingers are parasites, and that the nodules would not get well until she got this out. Her family history is negative as regards nervous diseases, but her son immediately accepts the view that her trouble is largely imaginary as in keeping with her mental make-up.
COMMENT

Case 3 is practically identical with cases described by Wilson and Colcott Fox. Cases 1 and 2 are of similar character but differ in that: (1) There is a greater degree of destruction of the skin produced; (2) there is more definite mental disturbance, and (3) the patients have an obsession that there are foreign substances in the skin which they must get out in order to obtain relief. These cases are in fact, we think, essentially of the same character as cases of acarophobia, but differ in degree. Both acarophobia and these cases occur in patients of unstable mentality who are, as a rule, actually insane on the subject. The patients with acarophobia go on scratching themselves indefinitely, but produce no destruction of the skin, or at least, very little. These patients, under a similar delusion, also scratch and dig the skin, but their actions are so violent that severe destruction of the skin occurs. In the case of acarophobia, the delusions are, as a rule, ineradicable and a cure is therefore impossible. In Cases 1 and 3 of our group, the patients have responded to a considerable degree to our appeals to reason, and have shown a corresponding improvement. In Case 3, we think that there is a reasonable hope that the patient will be able to overcome her impulse and will get well. In fact, she is almost well now. The patient in Case 1 has shown very great improvement. For a while he was able entirely to resist digging at himself, and within ten days his face was entirely healed, but later he has not been able to avoid an occasional digging into a spot, and we think it likely that he will relapse completely. In Case 2 we were unable to make any impression on the patient. Like acarophobia, Cases 1 and 2 will probably continue indefinitely.

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DISCUSSION

Dr. Corlett was much interested in Dr. Pusey's very admirable paper and believed there were three types of the disease described by him. He had many years ago reported a case of so-called idiopathic gangrene of the skin in a young woman who later presented lesions which were undoubtedly self-inflicted. Yet he believed there was such a type as idiopathic gangrene of the skin. The second type described by Dr. Pusey in his experience occurred in elderly people of unstable mentality. He had under treatment an elderly woman who was in a fair way to become a candidate for an insane asylum, who found in her skin many strange things no one else could find. Nor was she susceptible to conviction that the creeping and boring things of her imagination were only worn particles of her clothing or other detritus.
The third was the type of the neurotic individual, most frequently seen in young women, with self-inflicted wounds. Such a case was shown at the Chicago Dermatological Society some years ago. At that meeting opinions were about evenly divided, some believing that the lesions were self-inflicted, while others regarded the case as a typical example of idiopathic gangrene. The subsequent history, however, showed that the lesions were self-inflicted.

Dr. Hartzell was especially interested in the excoriations which occurred in the so-called acne urticata, which he thought was a bad name. These lesions occurred in young girls and consisted of round or linear excoriations. He had repeatedly requested the patients not to touch them, so that he might see the primary lesion but had rarely been able to see it. He had called this eruption acne urticata but believed it was neither acne nor urticata. He had under his care a young woman who scratched up her face in a most distressing fashion. He told her if she did not stop she would have to seek another adviser, and she took him at his word.

There was a second group of cases occurring in those who had the delusion that there was a foreign body in the skin, a grain of sand or a mite, which led to scratching. These cases occurred particularly in drug addicts, especially those who were addicted to cocaine. He had seen several cases of that kind.

Dr. Goldenberg understood Dr. Pusey to say that acne urticata was a skin neurosis, but thought anybody who had ever seen a case would bear him out that it was a distinct urticaria necroticans. He had seen several typical cases abroad and in New York and did not believe this type belonged at all to the neuroses of the skin. He believed it was a distinct dermatosis, characterized by papular urticarial lesions, an intolerable pruritus and an utter failure of all therapeutic measures.

Dr. MacKee said that Dr. Pusey had presented an interesting and important subject. The principal points were the diagnosis and recognition of a traumatic etiology. The diagnosis was often difficult because the affection at times markedly simulated syphilis, tuberculosis, epithelioma and other diseases. Not infrequently the determination of traumatism was difficult because the patients often denied the habit of picking and digging at the lesions. While the eruption was usually located on the face, scalp and neck, the speaker had encountered three examples where the affection was quite generalized.

Dr. Little complimented Dr. Pusey on his classification of these cases and considered the first group as the most characteristic. The type described by Colcott Fox under the title of "dug out excoriations" were very characteristic and he thought the other cases showed that some actual lesions of the skin existed in a nervous patient. He recalled three proved cases, one a man aged 40 who about ten years previously had begun to dig himself in that way. He was covered with scars and used a particular instrument to remove little portions of his skin which he regarded as being animal infections. The interesting point was that the patient was a confirmed epileptic, and that his son at the age of 12 began to do the same thing. It was apparently a purely nervous tendency. Another patient had for the last five years been digging out little pieces of skin in the same way and was covered from head to foot with all sorts of dermatoses. The characteristic thing about this case was that the patient indulged in the most ferocious scratching he had ever seen, engaging nurses to do it for him. He had produced a very great thickening of the skin but remained in admirable health and his physical condition was excellent. The third case was that of the wife of a colleague of his. It was not a very happy match, and they had lost a son in the war. The unfortunate lady had
the habit of getting up in the early hours of the morning and spending an hour or two digging her face, so that her face was very badly scarred. In one instance the ulcer seemed to be spontaneous. He had seen in several instances an ulcer as large as a small pea penetrating the muscle and the surgeon said that the only thing to do was to remove it, so the whole thing was extirpated. He could not think that it was self-inflicted because it was too deep. Bacterial examination showed nothing but staphylococcus organisms.

The speaker considered that group extremely characteristic and thought it was the only one of the three which was deserving of a separate clinical class, but he thought it did deserve that title.

Dr. Fordyce referred to an extraordinary case of mutilation of the face and neck produced by a sharp instrument and the finger nails. The patient had a delusion that the skin was infested with mites and in endeavoring to remove them he destroyed the skin and underlying tissues exposing the bone of the lower jaw. A plastic operation was necessary to cover the exposed parts.

Dr. Pusey stated that he and Dr. Senear were led to report these cases because of Adamson's article on the subject, and because they thought that attention should be called to them in American literature. That the report was timely was indicated by the fact that Dr. MacKee the previous week had read an article on exactly the same group of cases. Practically every one digs more or less at little irregularities or lesions in the skin. Occasionally patients are seen who have a distinct habit of digging some particular lesion. One sees all degrees of this tendency to injure the skin from these slight nervous manifestations to patients such as the ones described who produce serious destruction. The condition was not primarily a dermatosis; the results merely were in the skin. In the milder degrees it constituted merely a nervous habit, but in the severest cases the condition was a distinct psychosis. It seemed to the authors that either Fox's name of dug-out excoriations or Wilson's name of neurotic excoriations was a good title. The name dug-out excoriations was more or less tautologic, because all excoriations were dug-out, and for that reason they were inclined to Wilson's name.
VENEROID ULCER

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MINNEAPOLIS

Welander\(^1\) in 1903 reported, as a definite clinical entity, a disease occurring in the form of ulcers about the vulvae and genital region of girls and women who had not been exposed to venereal disease. Over half of his twenty cases occurred in young girls or young women with intact hymen.

Welander's twenty cases were seen by him during a period of seven years, indicating that the disease is not extremely uncommon. Some years later, other authors, such as Lipschutz,\(^2\) Tschapin\(^2\) and Lenartowicz,\(^3\) reported similar cases, including, however, some reports of nonvenereal ulcer that did not correspond to the disease described by Welander. These authors evidently overlooked the fact that veneroid ulcer or the ulcer of Welander is a clear-cut, definite disease, and does not include all the nonvenereal ulcers that may occur about the female genitalia. Fônss \(^4\) has recently reported three additional cases.

The striking resemblance of veneroid ulcer to the primary lesion of syphilis and chancreoid has usually led the physician to make a diagnosis of venereal sore in spite of the history of no exposure. The possibility of unpleasant or even tragic consequences to the patient because of these erroneous diagnoses can easily be appreciated.

REPORT OF A CASE

Miss F., aged 21, noticed a small sore or ulcer on the inner surface of the right labium minus, Oct. 1, 1919, which caused some pain on walking. The sore or ulcer secreted a gray, rather sticky discharge. In a few days two more ulcers appeared on the labia majora. Constitutional symptoms, such as fever, malaise, etc., were absent. The ulcers were superficial, sharply circumscribed, depressed in the center and covered with a sticky gray discharge. There was no areola and no surrounding inflammatory reaction. The ulcers were about the size of a dime, those on the labia majora being almost perfectly round, while that on the inner labium near the hymen was somewhat oval. There was no induration and the inguinal glands were not enlarged.

The patient denied exposure to venereal disease, and the hymen was apparently intact. Repeated examinations for \textit{Spirochaeta pallida} by dark field and

staining methods gave negative results. Ducrey's bacillus of chancroid was not found, although a number of slides were made at intervals of a few days. The spirochete or spirillum and fusiform bacillus of erosive vulvitis were absent. Examination for the diphtheria bacillus likewise proved negative.

The technic in scraping the ulcers and applying alcohol in order to obtain serum for the examination for *Spirochaeta pallida* proved markedly beneficial, and the ulcers healed under indifferent treatment in about a month, leaving round, slightly depressed scars with raised edges.

**CHARACTERISTICS OF THE DISEASE**

**Symptoms.**—Constitutional disturbances, such as fever, malaise, etc., are absent. The first symptom noted by the patient is the presence about the vulva of one or more sores or ulcers with a slight sticky discharge. These ulcers cause some pain or sensation of soreness when walking; and, if located near the urethra, some pain on urination.

The ulcer is round or oval and is usually about the size of a dime. It is rather superficial and covered with a grayish or slightly yellowish mucopurulent discharge. The edges are raised, sharply defined and are not undermined. There is no areola and there are no signs of inflammation in the adjacent tissues. On palpation there is no sign of induration. The lesions are rather painful when touched or scraped with a dull instrument and bleed readily. There is no outpouring of serum as in the primary lesion of syphilis. In a general way the ulcers resemble chancroid, chancres and moist papules of syphilis. The ulcers are acute in character, coming on suddenly, and healing under indifferent treatment in about a month.

The inguinal glands, although as a rule not enlarged, are occasionally slightly enlarged.

The scars, which soon after healing are quite characteristic, are superficial, round or oval with raised edges. In time undoubtedly these scars become almost, if not entirely, unnoticeable.

**Bacteriology**—Microscopic examination is of great importance, as it is necessary to exclude, by repeated examinations, *Spirochaeta pallida*, the bacillus of Ducrey. Vincent's spirochete and fusiform bacillus, and the diphtheria bacillus.

As the mucopus from the ulcer is usually mixed with vaginal or vulvar secretion, smears show a large variety of bacilli and cocci, rendering the recognition of the offending micro-organism a matter of difficulty.

Lipschutz found, in patients with these ulcers, a gram-positive bacillus resembling the bacillus subtilis, which he claims is the etiologic micro-organism. These bacilli were easily demonstrated in the smears from my patient; but, in my experience, identical bacilli are frequently
found in girls or women with vaginal discharges due to gonorrhea or other causes. In my patient the number of these bacilli in the vaginal or vulvar discharge was very much greater than the number in smears taken directly from the ulcers. Lipschutz found these bacilli in sections cut from the ulcers, but only near the surface, where they could undoubtedly be present as saprophytes. Bacteria that produce ulcer are usually found in the depths or active advancing parts of the ulcer, and are frequently absent on the surface.

The presence of these gram-positive bacilli in vaginal discharges due to various causes is noted by Lipschutz, and he advances the theory of mutation—that they are ordinarily nonvirulent, but may become virulent under certain circumstances. On the whole, it appears probable that the bacilli described by Lipschutz are saprophytes. In all probability the micro-organism of veneroid ulcer remains to be discovered.

**Infectivity.**—In contradistinction to the findings in chancroid, Welander in many experiments obtained negative results when the pus from these ulcers was inoculated on the arm of the patients. In other words, the disease is not auto-inoculable. No cases have been reported in which the husband has become infected. The infectivity of the disease, therefore, appears to be slight.

Micro-organisms that cause ulcer are rarely, or perhaps never, limited to any one region or organ of the body, so that it is probable that these ulcers will be found in other regions besides the female genitalia. Welander reports their occurrence about the anus in women, and mentions a possible case of this disease in an elderly man.

**Diagnosis and Treatment**

While there are a number of distinct dissimilarities, the general appearance of veneroid ulcer is strikingly similar to that of chancroid and the chancre. In the diagnosis of veneroid ulcer, the history of nonexposure to venereal disease is of great importance. This history is often corroborated by such evidence as the age of the girl, her general appearance, etc., and proof of nonexposure is not infrequently found in the presence of an intact hymen. With a history of nonexposure to venereal disease, an acute onset, absence of constitutional symptoms, and the characteristic depressed, superficial, round or oval ulcer with no induration, a probable clinical diagnosis of veneroid ulcer can be made. The probable or tentative diagnosis is made certain by the exclusion, on repeated examination, of *Spirochaeta pallida*, the chancroid bacillus, the diphtheria bacillus and the spirochete and fusiform bacillus of erosive vulvitis.
It is hardly necessary to dwell on the social and legal complications that may arise from the erroneous diagnosis of syphilis or chancroid in girls or women with veneroid ulcer. It is rarely necessary to make a definite diagnosis of early venereal disease in the absence of the specific micro-organism. Certainly, with a history of nonexposure to venereal disease, the diagnosis of the primary lesion of syphilis should never be made unless Spirochaeta pallida is found in the serum from the suspected sore, or until the Wassermann reaction becomes positive.

The ulcers heal under indifferent or mild antiseptic treatment in about a month. In all probability healing would occur in a shorter time under vigorous treatment. It is essential for diagnosis that repeated microscopic examinations for the spirochete of syphilis and other bacteria be made, and these examinations necessitate a more or less expectant treatment. Hot applications and thorough cleanliness are of value in limiting the spread of the disease. Talcum or some similar drying powder should be freely used about the genital region. Thymol iodid is of value as a dusting powder on the ulcers. The scraping of the ulcer and the use of alcohol locally in the examination for the spirochete of syphilis results in improvement.

SUMMARY

1. Veneroid ulcer or the ulcer of Welander is a disease characterized by the appearance of ulcers about the vulvae of girls or women who have not been exposed to venereal disease.
2. In all probability the disease is not extremely uncommon.
3. While there are a number of marked distinct clinical differences, the general appearance of veneroid ulcer is strikingly similar to that of chancroid and chancre.
4. The disease is self limited, healing under indifferent treatment in about a month.
5. The scars left after healing are typical. They are superficial, round or oval, with slightly raised edges.
REPORT OF TWO CASES OF IDIOPATHIC HEMORRHAGIC SARCOMA (KAPOSI), THE FIRST COMPLICATED WITH LYMPHATIC LEUKEMIA*

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CLEVELAND

The subject of idiopathic hemorrhagic sarcoma of Kaposi has already been written about from many standpoints, and to date quite a large number of cases have been reported. They have been reviewed so thoroughly in the articles of Gilchrist and Ketron,¹ and in that of Hazen,² that we feel that it would be superfluous to mention these reviews except in connection with the cases relevant to conditions in the patients we wish to report.

CASE REPORTS

Case 1.—History.—William K., a Russian Hebrew, aged 63, was seen by one of the writers in 1913, in consultation with Dr. G. W. Crile, on whose service the patient was at that time and to whom we are indebted for these notes. His principal complaint was that he had some red spots on the bottom of his left foot (Fig. 1), which at first had caused him very little trouble; later they had increased in size and were very painful when he walked. A year or so later he told us that some reddish spots had begun to develop on the surface of his left leg, and also on his right leg (Fig. 2). About one year before the patient had entered the hospital, he told us, there had also developed some reddish spots on the arm, and a few on his face; otherwise he said his health was very good, and he had no other discomfort.

The patient's family history was negative. Four years ago he was operated for mastoid disease, which delayed healing for nine months. The patient denied infection with syphilis. He had been married forty-five years; there were six children, living and well. He drank very little and smoked in moderation.

Examination.—Physical examination of the internal organs proved to be entirely negative. The spleen and kidneys were not palpable, the liver was just palpable at the costal margin. The reflexes were present. There seemed to be general lymphatic enlargement, the glands in the axillae being large and freely movable; the ones in the groin were small.

The skin showed the following changes: Over the entire body were scattered numerous irregularly shaped areas of brownish-red pigmentation, these being especially marked on the lower limbs (Fig. 3). There was quite a little scar formation on the lower limbs. These brownish-red and bluish-red areas were usually more markedly pigmented at their periphery, and seemed lighter in the centers. The limbs showed plenty of evidence of old and new hemorrhages into the tissues, while the bluish-red areas were markedly infil-

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Fig. 1 (Case 1).—Wart-like lesions on bottom of foot.

Fig. 2 (Case 1).—Later stage of condition shown in Figure 1.
trated down to the subcutaneous tissues. Both the lower limbs were edematous and pitted quite readily, while along the outer border of the left leg and on the bottom of the left foot, the skin was thickly studded with horny, very vascular nodes, bluish in color; they were quite painful to the touch. Scattered especially over the upper limbs were quarter to dollar size nodules, with deep bluish, infiltrated, raised areas (Fig. 3), while the ears (Fig. 4) showed numerous bluish, raised lesions, the size of a small finger nail. All the lesions on the upper extremities and on the ears were very vascular, and it was possible to squeeze out most of the blood by simple pressure with the fingers.

At this time the white blood count was 23,600 and the red blood count 4,780,000. A clinical diagnosis was made of hemorrhagic sarcoma of Kaposi, and was later substantiated by microscopic study of the tissues. Unfortunately a differential count of the blood was not made, and the patient was lost sight of by the writer, as he was not on his service.

**Course and Treatment.**—In June, 1916, the patient consulted one of us at his office, and showed much the same condition, except a marked exaggeration of the disease; he was then sent into the hospital for further observation and study. The papillomatous overgrowths on the lower limbs and on the bottom of the left foot had much increased in size, so that it was almost impossible for the patient to walk. He was also somewhat weaker, and unable to work. At this time a careful examination was made of the blood, and we were surprised to find the following condition:

Hemoglobin (Talqvist), 70 per cent.; white blood cells, 66,000 per cubic millimeter; red blood cells, 4,000,000 per cubic millimeter.

Differential count: Small mononuclears, 90 per cent.; large mononuclears, 2 per cent.; transitionals, 1 per cent.; polymorphonuclears, 7 per cent.; eosinophils, 2 per cent. Two hundred cells counted.

The red cells showed irregularity in size, and no nucleated red corpuscles were seen. Blood cultures were made at this time, but showed nothing of interest. The patient was put on injections of sodium cacodylate, 2 grains daily, for three weeks. Later the white blood count dropped to 40,000. He also had several roentgen-ray treatments on different areas of his body. He seemed to improve somewhat generally, but refused to stay longer in the hospital. Some specimens of tissue were removed from different areas for future study.

The patient thereafter called at the office of one of the writers, from time to time, and on May 2, 1917, once more entered the hospital. His condition at this time was much worse, the lesions had all increased in size, and the patient was quite feeble. He complained of gastric distress, and of inability to walk. The skin of the legs felt hard and leathery, though there were occasional small patches of clear skin between lesions. Both feet had a “cauliflower,” fungating, vascular growth on the plantar regions. There was no lymphatic enlargement. The spleen was not palpable with certainty, as the patient was very
Fig. 3 (Case 1).—Side view of foot.

Fig. 4 (Case 1).—Vascular lesions of ear.
rigid; the liver just palpable. At this time there was general enlargement of the glands, which were discrete and firm. His blood findings were as follows:

Hemoglobin (Talqvist), 70 per cent.; white blood cells, 68,000; red blood cells, 3,600,000.

Differential: Small mononuclears, 89.6 per cent.; large mononuclears, 1.1 per cent.; polymorphonuclears, 7.2 per cent.; transitionals, 0.8 per cent.; mast cells, 1.2 per cent.

The red blood cells showed nothing remarkable. The patient was treated with roentgen rays on the plantar surfaces of the feet and on his hands and ears. The feet improved quite remarkably. However, as his general condition did not seem to improve, he refused further treatment and was discharged June 19, 1917, his white blood count rising to over 200,000 before leaving the hospital. A few days later one of the writers was summoned, but before he could get to him the patient died. Necropsy was refused because of religious convictions. Specimens of tissue were removed from the patient on this visit, from a large circular, vascular area on the back of the left hand.

**Histopathology**

A very striking characteristic of all the tissues, on examination, was the very marked vascularity. Throughout all of the involved tissue, there was a great increase in newly formed blood vessels. Here and there throughout the entire tissue there was a line of endothelial cells indicating newly formed vessels. There was a marked increase in blood pigment throughout the tissues, especially around these vessels. The neoplastic growth was especially pronounced.

![Fig. 5 (Case 1).—Hard indurated vascular lesion at base of thumb.](image-url)
around the coil glands. This lesion appeared as a very early one, and the lesions were characterized by cellular infiltration of lymphocytes and occasional plasma cells. The neoplasm itself was made up of spindle cells that appeared to arise from the vessels, which placed it in the sarcoma group. The tissues were quite edematous and swollen. The epidermis was not especially thickened. In several areas there was noted an infiltration of cells which were practically homogeneous in character, and apparently of the small round cell type, though not of the type seen in leukemia.

Fig. 6.—An early stage of sarcoma showing new-formed vessels lined with endothelial cells, edema of the tissues and pigment formation.

Case 2.—History.—Gust R., aged 56, was seen through the courtesy of Dr. D. G. Tanno, by one of the writers. He complained of a tumor on the hand, causing inability to work. He said that some twenty years before, he at first had a swelling of the second finger of the left hand, which was bluish in color. This bluish discoloration and swelling had gradually spread to the third and little fingers, and about seven years ago it had spread back to the dorsum of the hand, up the wrist, and some lesions had begun on his lower limbs. Of late the swelling of his hand had become quite painful, the skin of the second finger was breaking down, and discharged more or less
serum; it was almost stiff, so that the patient was unable to work. He gave no history of having had this hand injured or frozen. The family history and physical examination were negative. With the exception of the condition above mentioned, the patient had always been well, and denied any venereal infection. General physical examination revealed nothing extraordinary. The glands showed no especial enlargement, except the left axillary glands, which were somewhat enlarged and discrete. Neither the liver nor spleen were palpable. Examination of the patient's blood showed nothing abnormal, and is therefore not reported in detail. The Wassermann test of the blood was negative.

**Physical Examination.**—There was symmetrical involvement of both lower limbs, though the lesions were not of the same character entirely on each limb. The left one was, if anything, more involved, and in each case the eruption

![Image](image_url)

**Fig. 7.**—New-formed vessels, clumps of pigment and cellular infiltration of the tissues.

was below the knees. The lesions consisted of irregular, deep reddish-blue areas varying in size from the head of a nail to irregular areas, some of them many centimeters in diameter. On the left limb there were numerous small, light bluish spots. Over the tibia there was a long lesion about 5 by 2 cm., deep blue, fairly well defined and markedly indurated; on the lower portion of this limb, extending from a spot 6 cm. above the outer malleolus, to a spot 3 cm. below the same landmark, anterior to the base of the third toe, and posteriorly around to the inner malleolus, the skin was raised, verrucose, and of deep bluish tint, also markedly indurated; a like area was
found on the outer border of the right foot, though this was not so marked in extent, pigmentation or verrucosity. On the right limb, however, was a very extensive, indurated deep Bluish lesion, extending posteriorly from the heel half way to the calf. Its outlines were irregular, but with very distinct borders. On the inner surface of the right knee, there was an area about the size of a nickel, containing several Bluish striae. These lesions as yet showed no induration. There was one small Bluish area on the left buttock. The most notable change was seen on the left hand and wrist. The entire skin from the wrist down was markedly swollen, so that the three middle fingers were about twice their normal size, and on the posterior surface of the hand was a large, deeply pigmented area extending from the wrist distally to the second joint of the second and third fingers, to the nail of the

Fig. 8.—An infiltration with homogeneous small round cells around the coil glands.

middle finger, and on each side to the palmar border, while the palmar borders of the middle and second fingers were deeply pigmented. This area was much swollen, edematous and indurated, while the skin on the three fingers was broken and showed some exudation. There were some pustules on the surface of the large lesions from secondary infection. Just above the wrist was another area of deep pigmentation about 6 cm. in length and 3 cm. in width at its widest portion. The borders of this lesion were irregular, and over the surface of the same, as over the surface of the back of the hand, were scattered numerous nodules varying in size from a split pea to that of a castor bean.
Course and Treatment.—The patient was put on local applications of 1 per cent. of aluminum acetate solution for the hands, and given daily injections of sodium cacodylate, 2 grains; the fingers, back of the hand and lower limbs were also treated with roentgen rays. There seemed to be marked improvement, and the patient was discharged from the hospital, March 8, 1919, with quite good use of his left hand; the lesions on the lower limbs were very much improved. A large area of the bluish infiltrated mass on one calf was removed under aseptic precautions, for future study. Likewise a small beginning lesion over the right knee, and a small lesion on the back of the left hand.

HISTOPATHOLOGY

All these tissues presented a picture quite similar to that seen in Case 1. There was a marked formation of new blood vessels with accumulation of pigment, especially around the coil glands. There was similarly an infiltration of round cells, some plasma cells and later, spindle cells. In this patient likewise were noted, though not so frequently, isolated areas made up of a homogeneous mass of small, round cells. Pigment granules were found in the tissue spaces apparently having no relation to blood vessels, and not confined to phagocytes.

ETIOLOGY

There has been much discussion in the past as to the etiology of hemorrhagic sarcoma of Kaposi. Clinically, the disease looks much like a granuloma, infectious in origin. It usually begins on one of the
extremities and spreads slowly, and gradually involves other portions of the body. Ewing\(^3\) feels that it is a granuloma, which in certain predisposed subjects begins taking on a neoplastic property. The new growths in the viscera he thinks are probably not metastases, but arise from multiple foci which were originally inflammatory. The final tumor product is a spindle cell sarcoma. We are all familiar with the fact that it is seen more in Italians and Russian Jews. Lieberthal has already mentioned freezing as one of its predisposing causes, the disease always beginning on one of the extremities. We agree with him that trauma may predispose to its origin. If it is actually an infectious granuloma, the histologic picture is a terminal event, and puts it in the angiosarcoma group.

We are disposed to report our cases inasmuch as one of them is the first on record, at any rate to our knowledge, in which a lymphatic leukemia developed. Whether there was any connection between the lymphatic leukemia and the hemorrhagic sarcoma of Kaposi, we are unable to state. Unfortunately we could not obtain a necropsy. Certainly as the patient's clinical lesions became worse, his leukemia increased in severity and before his death he had a white blood count of over 200,000, yet the cutaneous lesions showed nothing especially characteristic of a leukemia, but were always distinctive of hemorrhagic sarcoma of Kaposi.

We are all familiar with the case of Pardee and Zeit,\(^4\) in which the patient with a typical mycosis fungoides, was found also to be affected with leukemia. Wende\(^5\) has also reported a case of probable

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Hodgkin's disease transformed into a leukemia before death. There are many cases on record\(^6\) of Hodgkin's disease being complicated with leukemia, and vice versa. One of us\(^6\) has recently reported transformation of a lymphosarcoma before death into a leukosarcoma, with a white blood count of 152,000. This has already been discussed by one of us\(^6\) in connection with lymphogranulomatosis. As we have said before, we are unable to say whether there is any connection between the lymphatic leukemia and the hemorrhagic sarcoma in the first of our cases. It is certainly an unusual occurrence, and we record it in the hopes that perhaps later some one may find it of use in correlation of diseases. It was unfortunate in our case that because of the patient's religious point of view, a more careful study of conditions was not possible.

Justus\(^7\) has recently reported having injected in the back of a white mouse, some emulsion of a rapidly growing area from a case of hemorrhagic sarcoma of Kaposi. Later on, in the lungs, heart and liver, he observed collections of new formed cells, especially around the arteries. He succeeded through emulsifying the kidneys of the injected animal, in transmitting this disease down through five generations, and areas injected always showed the lesions characteristic of sarcoma of Kaposi. We regret to say that in our experiments this has not been possible, as we have injected white rats, guinea-pigs, young cats and rabbits with pieces of tissue emulsions intraperitoneally, subcutaneously and intratesticularly, from Case 2, yet we have no result, so we are able to add nothing to the mooted question of etiology in this disease.

**TECHNIC**

Our technic was as follows: Tissue was excised under aseptic precautions, and placed immediately in saline with ice around it. It was then emulsified by grinding with sand, and injected, as before mentioned, into the animals. We also made transplants of tissue pieces subcutaneously, intraperitoneally and intratesticularly. After two months the animals showed nothing. We then killed them and careful postmortem examination showed no evidence of disease. Emulsions were made of the organs and injected into another generation of white rats. They remained alive and are still well at the end of one month.

**PIGMENTATION**

The blood pigment does not appear in phagocytes, but is free in the spaces, and especially around the vessels and coil glands. It appears very early — being seen before there is much inflammatory change and

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typical proliferation of the cells, characteristic of this disease. We proved this pigment to be hemosiderin by the iron reaction of Nishimura, a modification of Perl's method. It gives excellent results, the iron is well differentiated against the tissues. It may be used with a secondary stain of eosin-hematoxylin without interfering with the pigment stain.

RÉSUMÉ

We report two cases of idiopathic hemorrhagic sarcoma of Kaposi in a Russian Hebrew, aged 66, and in an Italian, aged 56. In the first case the disease being of five or six years' duration; in the other case, of twenty years' duration. In Case 1, the patient developed a lymphatic leukemia in the course of his disease, but throughout the course his cutaneous lesions showed the histologic characteristics of hemorrhagic sarcoma of Kaposi; i.e., the formation of new blood vessels in the corium, perivascular infiltration with small, round cells, plasma cells and spindle cells, and with a marked infiltration of the tissue with blood pigment, consisting of hemosiderin. Experimentally, we were unable to transmit the disease to cats, white rats, to guinea-pigs and to rabbits.

We wish to thank Dr. H. T. Karsner for suggestions and for reviewing our work.

DISCUSSION

Dr. Lane asked about the appearance of the lesions on the feet. In the illustrations some of them very much resembled granuloma pyogenicum. This was interesting in view of the fact that occasionally lesions which at first sight appeared to be those of granuloma pyogenicum proved to be sarcoma.

Dr. Wise said it was so long since he had had an opportunity to read up on Kaposi's sarcoma that he wished to know how Dr. Cole distinguished his cases from ordinary nodular multiple sarcoma of the skin. Kaposi's disease occurred almost exclusively in immigrants; he had never seen it in an American-born citizen, which might be an unimportant observation. How did Dr. Cole distinguish the cases of which he presented the pictures from the ordinary relatively benign type? The classical form of Kaposi's sarcoma was a plaque disease which occurred ordinarily on the backs of the hands and feet and legs, slightly elevated and indurated, violaceous in color; and he wished to know how the differentiation between the ordinary disseminated type of sarcoma and the typical Kaposi type was made.

Dr. Lieberthal said that he looked over the illustrations and agreed with the diagnosis. In reference to the remark by Dr. Wise regarding the disease in Americans he stated that of four cases reported by him one was that of an American. The striking feature was that the majority of these cases occurred in foreigners in lowly walks of life. He had found that injury preceded the development of the lesions in some cases. In the beginning the lesions were bluish and soft, gradually becoming quite firm, those on the feet even showing cornification and cup shape. In his own specimens it was shown that the infiltration commenced in the adventitia and gradually penetrated the whole wall of the blood vessels. The speaker had performed a necropsy on one of his cases which disclosed metastases in all organs.

Dr. Little said that four cases had been shown in the English race quite recently in London, but they were not at all convinced that the condition was at all related to sarcomatosis. The name was probably a misnomer. In his opinion the tumor formation in Dr. Cole’s case was very exceptional indeed.

Dr. Cole stated that neither of his cases had occurred in Americans; one patient was a Russian Jew and the other an Italian, and these were the people who were usually affected with this disease. He agreed that it was not a sarcoma. When they were differentiated it was readily found that in Kaposi’s disease there was the early hemorrhage and not the homogeneous character of cell infiltration that occurred in sarcoma. Without the condition of hemorrhage it might be hard to differentiate, but this made it possible to do so readily.

In the early lesions there was no resemblance to granuloma pyogenicum. A little later some of them had that appearance but this was not the case histologically.

He said that he had quoted Dr. Lieberthal in regard to the treatment, but had not read that part of his paper. In one patient the disease had lasted for about twenty-five years and seemed almost like melanotic sarcoma, but of course it was not, for had it been, the man would not have lived that length of time.
OSSEOUS FORMATION IN LUPUS ERYTHEMATOSUS*

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The following case seems to be sufficiently unusual and to have enough interesting features, both clinical and microscopic, to justify recording it.

REPORT OF CASE

History.—Recently, the patient presented himself at the college clinic and the following notes were made: The man was of medium weight and height and apparently in good physical condition; aged 42, born in Austria, occupation, painter. His family history had no bearing on the condition; his father's death was caused by asthma at 62; his mother died of pneumonia at 58. There were ten children in the family—six boys and four girls—all alive and well, except one brother whose death was caused by "stomach trouble," as the patient expressed it.

His past history was of little consequence. He had been in excellent health all his life with the exception of the skin affection. At the age of 37, five years previous to this writing, he had noticed a small scaly lesion just in front of the left ear; this lesion persisted, was soon followed by others, the characters of which were scaling, dusky redness and central atrophy. At the time of examination, he had flat superficial scars on both sides of the face, which were frankly those of erythematous lupus. Three years after the outbreak on the face, he noticed quite accidently a large node in his right buttock.

Physical Examination.—Examination of this region revealed an area approximately somewhat larger than a silver dollar, of dull redness, in the center of which was a group of small atrophic macules. The border of the erythema was imperceptible, shading off into the healthy skin; a slight scaling was noticeable and some of the atrophic spots had coalesced, until it was safe to say that the whole central area was undergoing or had undergone atrophy.

This atrophied center must have been confined to the uppermost layers of the skin as it was extremely superficial, though typical from a clinical standpoint, in that it was a dead ivory white in appearance. There were no telangiectases observed. On attempting to pick up the skin between the fingers, it was noticed that it was attached to the underlying tissues and further palpation brought out the fact that a brawny, deep seated induration existed underneath. The whole lesion when surrounded by the fingers was of boardlike hardness and seemingly larger than a hen's egg. The outline was irregular, though it was about 4 inches in one diameter and 3 in the other.

The urine examination revealed nothing of consequence and the complement fixation reaction was negative.

*Read before the Forty-Second Annual Meeting of the American Dermatological Association, held at Atlantic City, N. J., June 16-18, 1919.
The first biopsy was a failure; it was done with a cutaneous punch, and did not go deep enough to get more than the superficial layers of skin; the specimen was however cut and stained, though reported as mildly inflammatory tissue with no definite diagnosis.

Another attempt was made to remove a piece of tissue by elliptical incision with a scalpel; this was more successful, though the incision was not as deep as desired, as the scalpel struck the hard mass, and no impression could be made on it.
The pathologic examination on this specimen was reported as chronic inflammatory tissue with calcareous deposits. The patient was eventually advised to have the whole mass removed by surgical operation; this was done in due time by Dr. George D. Stewart. The patient's recovery was uneventful.

Fig. 2.—Original lesion on right buttock. Dark shadowed area represents dusky redness; superficial atrophy below. Small round crusted lesion marks biopsy punch.

The piece of tissue removed was about 4 by 3 inches in size and perhaps 2 inches deep. Viewed on the cut surface, one could see as well as feel the thin edge of what was apparently bony tissue. The bony layer, which was about on the level with the subcutaneous fat.
ran under the skin, throughout practically the whole specimen, and any attempt at puncture or incision from the top would strike this ledge.

Suitable pieces of this specimen were obtained for further study and a pathologic examination was made by Dr. D. S. D. Jessup.

**MACROSCOPIC EXAMINATION**

The gross specimen is a section from the skin with the underlying tissues measuring 10 by 8.5 by 1.5 cm. in depth. On section the tissue cuts with a gritty feeling, small areas of calcareous deposits being scattered through the deeper layers of the skin and subcutaneous fat.

**MICROSCOPIC EXAMINATION**

The epidermis presents a finely corrugated border in one portion, where the calcareous deposit lies deep in the corium and subcutaneous tissue. Where the deposit approaches nearer the surface the collagen takes a bluish stain and the epidermic border is slightly depressed; there is hyperplasia of the stratum mucosum and loss of the pegs in areas. In the areas of corrugated epidermis there is some hyperkeratosis; the depressions apparently corresponding to the mouths of the hair follicles, are filled with keratotic material. An occasional sweat gland duct is seen, but in the section examined, no hairs. The sweat gland coils appear normal in numbers; a few of the groups show edema of the cells.

The papillary bodies appear normal except that the elastic tissue fibers are decreased in number, and are practically absent where the pegs are compressed or missing. In the area above referred to, where calcareous material is found near the papillary layer, there is marked infiltration of the upper portion of the corium with round cells and cells which are probably necrotic. The supporting tissue is small in amount. The tissue immediately beneath shows irregular shaped islands of calcareous material located sometimes in dense fibrous tissue, sometimes in fibrous tissue of looser structure, more cellular, with fatty tissue in the immediate neighborhood, and sometimes in areas in which there is evidence of hemorrhage.

Beginning around the sweat coils and smaller blood vessels, through the entire specimen there is round cell exudation. This appears sometimes as small islands of round cells with a few blood vessels, the lumina of some of which are invisible. This round cell exudation does not bear a definite relation to the calcareous deposit. Elastic tissue fibrils are scattered throughout as are also collagen fibrils. No elastic tissue fibrils are found in the areas of round cell exudation.
CHEMICAL EXAMINATION

The chemical examination was made by Prof. John Mandel, who reported the tissue as bone formation. His method, briefly, consisted of allowing the specimen to soak for a long time in dilute hydrochloric acid to dissolve bone tissue.

Fig. 3.—Linear scar following excision operation.

This solution was treated with ammonium oxalate, which causes a precipitate of calcium oxalate. Ammonium molybdate added to the original solution will prove the presence of calcium phosphate by precipitation, and calcium carbonate by effervescence.

All of these tests were positive, consequently his report.
COMMENT

Several diagnoses were taken into consideration at the original clinical examination. They were: organization, fibrosis, etc., following old inflammatory changes; deep seated sarcoid; localized scleroderma, and lupus erythematosus. All of these ideas, with the exception of the first, were based merely on visualizing the lesion, taking into consideration the color, scaling and atrophy. The first — fibrosis and organization — seemed a reasonable diagnosis, as such changes could even account for the superficial atrophy from pressure on the skin capillaries; the patient, however, denied emphatically any injury or intramuscular injection, which caused the supposition to be discarded. Sarcoid was brought to mind on account of the depth of the lesion and the color, though mainly because the writer had seen several cases of the Darier-Roussy type, with typical lesions of erythematosus lupus on the face; it was not given very serious consideration, as a single lesion of such ivory-like hardness in that locality was not especially characteristic.

The density and sclerotic nature of the lesion with the epidermic atrophy pointed strongly to the diagnosis of localized scleroderma; it was impossible, however, to get away from the fact that inflammation existed, and scleroderma is an atrophy and not an inflammation. As already mentioned, the skin over the induration was dusky red, scaly and atrophied, so the remaining alternative was to believe all the existing lesions — that is, those of the face and buttock — to be the same; and this was the ultimate conclusion. Of what the indurated mass consisted remained in obscurity until a rather elaborate study had been made, the result of which has already been given. Whether to look on all the lesions as one process, or whether to consider those of the face as lupus erythematosus and the one on the buttock as an entirely different entity, was the question to be solved.

This has been solved in part by later developments in the case yet to be described. The patient was kept under observation and after a lapse of some months the lesions on the face began to take on renewed activity, new ones rapidly appeared, spread to the neck, shoulders, arms and hands and in a very short time the case developed into one of typical erythematosus lupus of the so-called disseminate variety. Simultaneously with this new outbreak, inflammatory action again appeared in and around the scar on the buttock, and the integument in that location assumed the same appearance as the other lesions, with subacute inflammation and scaling.

This phenomenon seemingly was fairly good clinical evidence that the buttock lesion was erythematosus lupus; it could not be proved pathologically, although another section of skin was removed following
the recurrence; after all, the microscopic picture of lupus erythematosus is not so characteristic that it could furnish absolute proof.

No attempt was made to review the literature; if any one has reported a similar case, priority will not be contested.

Fig. 4.—Calcareous deposits, a; scattered giant cells lying in the connective tissue near the calcareous deposits, b; areas composed of small round cells, c.

DISCUSSION

Dr. Pollitzer was of the opinion that the paper offered not the slightest proof of bone formation. He believed it was a case of the deposit of lime salts, which was very interesting as an observation though not very rare; but the title of the paper was misleading. The chemical examination simply proved the presence of a calcareous deposit and not the formation of bone. The microscopic examination was the only thing that could prove the formation of bone and that had not been presented. The formation of bone in the skin was very rare, but had been recorded in a small number of cases. A few years ago he had published a unique case of scleroderma in which there was
bone formation in the skin, clinically visible and microscopically demonstrated. Calcareous deposits in the skin occurred in many conditions; they should not be confused with bone formation.

Dr. Zeisler stated that he had only once come across anything that reminded him of the case which Dr. Trimble had presented. Several years ago he was consulted by a young woman who had a peculiar spot on her forehead. He could not say whether it was a cyst or something else, but began to pick at it and to his great amazement dug out a small bony mass. It was perfectly round and easy to take away from the surrounding tissue and was about the size of a three carat pearl. This was the only thing of the sort that he had ever seen.

Dr. Little thought that Dr. Pollitzer had made a very good correction of the title. He had seen cases of diffuse calcinosis, and that was probably what this case was.

Dr. Trimble believed that the tests he had related, taken with the clinical evidence, was enough to prove that the growth was bone. He was under the impression that calcareous deposits could be cut through with a strong, sharp knife. In this case, the knife made no impression on the growth. The chemist was positive in his opinion that he was dealing with bony tissue. The association with lupus erythematosus was to his mind the interesting feature. Whether it was directly connected with the pathologic process of that disease, or whether it was an independent lesion occurring in a patient with lupus erythematosus, was a question. He was firmly of the belief, however, after seeing and treating the case and having the various tests made, that it was bone.
VII.—CAMPHOR OIL TUMORS*

WILLIAM H. MOOK, M.D., AND WILLIAM G. WANDER, M.D.
ST. LOUIS

That tumors may be produced by the subcutaneous injection of camphor oil is an established fact.

When we diagnosed our first case in 1914, we thought perhaps an individual idiosyncrasy to the camphor or an error in the drug had produced a sarcoid. We have now collected six cases as evidence of the danger of the indiscriminate use of this remedy as practiced in operating rooms for collapse and in the treatment of very severe illness, such as the pneumonia that occurred in the recent epidemic of influenza. The cases we offer are from the service of Engman and Mook at the Barnard Free Skin and Cancer Hospital and the Washington University Clinic, and from their private practice.

REPORT OF CASES

Case 1.—History.—Mrs. X., aged 31, wife of a physician, was referred by Dr. C. H. Nielsen, April 24, 1913, for diagnosis and treatment for some tumor masses in both arms. Six weeks before she noticed a small "lump" forming on the outer surface of about the middle third of the right arm. She stated that it was round, flat, slightly elevated, rather hard and inflamed-looking, but only slightly tender to the touch. In a short time she noticed a similar lesion on the left arm. Both gradually became larger.

She gave no history of previous skin trouble except for acne on her back and an oily skin. The lymphatic glands were nowhere perceptibly large. She had not been feeling well for several months. In the fall of 1918 she suffered from gastric disturbance and she felt languid and nervous. In January, 1913, she felt worse and was thought to have ulcer of the stomach. She spent the month of March, 1913, in bed with what was supposed to be nervous prostration. When first seen by us, in April, her health was better but the yellowish color of the skin indicated that she was not well. The tumors at the time were thought to be leukemia cutis.

Examination.—Careful examination of the right arm revealed, in the middle third, an area larger than the palm of the hand with the longest diameter running transversely. The center was of a purplish color, this discoloration gradually fading outward into the normal skin. The surface over the area was sensitive to the touch, smooth, and with no crusting or scaling. The mass was circumscribed with the margins very distinct and, instead of being rounded as one would expect, they were sharply defined with linear edges and sharp angles. The mass felt doughy and extended deep into the tissue. By deeper

*Studies, reports and observations from the dermatological departments of the Barnard Free Skin and Cancer Hospital and the School of Medicine, Washington University, St. Louis, Mo., U. S. A., service of Drs. M. F. Engman and W. H. Mook.
Fig. 1.—Right arm in Case 4, showing the inflammation of the lower two-thirds of the arm that threatens necrosis. The discoloration varies with the degree of inflammation.
pressure around the edges, small pea-like nodules could be felt. They were in all respects like the larger mass, their only differences being size and lack of discoloration on the surface.

On the inner surface of the arm small, angular tumors could be followed almost to the axilla in a chain formation. On the left arm there was a similar condition, but situated anteriorly instead of on the outer surface as on the right arm. Here the main tumor was an inch wide and four inches long, extending from one inch above the anterior surface of the elbow obliquely across the arm to the axilla. The notation reads: "It feels as if paraffin had been injected subcutaneously." The smaller chain-like tumors existed here as on the right side and could be felt more markedly several inches away from the main tumor. No similar lesions could be found on the body. There was no discoloration on the left arm, the surface being normal in color and the lesions discoverable only by examination.

Course and Treatment.—The patient returned on Oct. 11, 1913, for observation. A small section was excised and sent to a general pathologist who pronounced it tuberculosis. She was accordingly given roentgen-ray treatment over a period of several months.

April 29, 1914, she returned again and the tumors were still present but smaller. In going over her history very thoroughly she stated that nine months before the tumors first appeared she had had a severe operation for gallstones. She was unconscious for several days and during that time she received many injections of camphor oil in the arms. A woman friend of hers, strange to say, had an operation on the same day for the same trouble and she, also, received the camphor oil injections. She, too, developed the same tumors, though they were smaller in number and in size. The conclusion was immediately reached that the camphor oil in the sites of the injections had formed tumor masses such as follow paraffin injections.

She was last seen on Sept. 11, 1914, and at that time the lesions were softer; some had partially disappeared, and they were probably becoming absorbed. She did not return for further examination, and her husband has failed to answer a recent letter of inquiry as to her present condition (see addenda).

The following letter was received just as the manuscript was being mailed for publication:

Your letter of recent date forwarded to me here.

Yes, it was my wife whose arms you treated in 1913-1914. I have no data as to how many injections of camphorated oil were given her, she had them every fifteen minutes for several hours after coming from the operating table, probably two or three dozen doses.

Her arms were swollen, hard and painful for some time afterward, but seemed to be entirely well for eighteen months. She did not have much treatment for her arms before going to you—some external applications and arsenic internally.

After leaving St. Louis, my wife consulted Dr. X. at X. He advised operation and in July, 1915, operated on her arms, removing all the diseased portions. His laboratory diagnosis was tuberculosis. Recovery was uneventful and there has been no recurrence.

Case 2.—History.—Mrs. C. P., aged 29, reported to the clinic Feb. 28, 1917, was admitted to the Barnard Hospital, March 5, 1917, and was discharged, March 18, 1917, with the diagnosis, tumors following camphor oil injections.

Family History.—Her parents are living. Two brothers and one sister died in infancy. She has two children, aged 9 and 12.
Past History.—She had never been seriously ill until four years ago when she had a double oophorectomy done at a local hospital, Feb. 5, 1913. She was quite ill following this operation and was given hypodermic injections of camphor oil in both arms and in the right thigh. Three injections made her arms and thigh sore at the time, and her arms ached after she reached home. She had several attacks of influenza that winter and is just recovering from the last attack.

Fig. 2.—Right arm in Case 5, showing tumors near shoulder and on lower two-thirds of arm. The discoloration represents the inflammation.
Present Illness.—Two weeks ago she noticed some small tumor masses under the skin of the left arm on the outer surface. These tumor masses coalesced, forming large indurated tumors varying in size from 2.5 cm. to 10 cm. A week later the same condition appeared in the right arm and thigh. Some of the lesions are so indurated that they feel as if there were concrete or bone tissue beneath the skin. They are slightly inflammatory and painful only on pressure.

When seen again on Sept. 5, 1919, the tumors were still about the same size as when she was discharged from the hospital, two and one-half years before. They had neither increased nor decreased in size and the arm circulation was perfectly balanced.

Case 3.—History.—Mrs. P. L., aged 23, white, married, complained of lumps and nodules in both arms and the right breast.

The patient was operated on for appendicitis in 1913, at which time she was given camphor oil injections at the points where lumps are now found. During the year following, the patient noticed redness over the sites of the injections after rubbing them but the tumor masses were not noticed until a year after the injections. While continually increasing in size and "running together," no other changes were noticed until about a year ago (1918), five years after the injections, when the masses began to be painful, and a rather sharp, sticking pain was noticed, especially after exercise.

Examination.—On examination, this case presented no change in the skin surface. There was no discoloration and only slight evidence of any swelling. Palpation disclosed, in both arms and in the right breast, deeply situated masses, not attached to the skin, and varying in size, the largest being about 1 inch in diameter. Small nodules about the size of a pea ran in beaded fashion toward the shoulder, in both the arms and the breast. From the largest mass, just above the external condyle of the humerus, a piece was excised for study.

Case 4.—History.—Miss A. R., aged 32, had been in good health until the middle of December, 1918, when she had influenza followed by a severe pneumonia. At the crisis of the pneumonia, she stated, she was partially unconscious for about five days and at this time she received about eight injections of camphor oil in the right arm and three or four in the left. For some time afterward her right arm was weak and the sites of injection were tender, but she had no actual pain.

She paid no attention to her arms until June, 1919, six months later, when she again consulted her doctor about the "lumps" in her arms. He said they were not due to the injections because there was a tumefaction on the inner surface of the right arm and no injections had been given in this area. The tumors were increasing in size, but there was hardly any perceptible redness. Later in June, six and one-half months after the injections, they began to increase rather rapidly in size and became red, inflamed, and somewhat painful on pressure.

Examination.—They continued to get larger and more inflamed until September, 1919, nine months after the injections. The entire anterior, outer, and posterior aspects of the right arm were mottled a bluish-red color and were swollen, hard and very infiltrated. The local temperature was considerably higher than that of the normal skin. The mass was lobulated and around the periphery the edges were linear and very sharply differentiated from the adjacent tissue, with distinctly marked angles, instead of merging gradually.
Fig. 3.—Right arm in Case 6, camphor oil tumors, showing tumor masses involving lower two-thirds of arm.
with the normal tissue. The inner aspect of the arm was represented by a
wide circular band of infiltration and reddened, and here the inflammation
was a little more acute. The whole process completely encircled the arm just above
the elbow in an infiltrated band and had so interfered with the return circu-
lation of the arm that edema of the hand and forearm was produced.

The left arm had a smaller, similarly inflamed tumor mass just above the
elbow but it was much smaller and only on the outer aspect. Extending down-
ward over the external surfaces of both elbows and on to the forearms for a
distance of 8 cm. on the right arm and 6 cm. on the left, were the same doughy
infiltrations with angular edges, triangular in shape, and with the apices point-
ing downward on the forearms. They were slightly reddened but not so
inflamed as the earlier arm lesions. Small bead-like chains of little tumors
could be felt in long strands around the periphery of the tumor proper and
also extending upward toward the right axilla, like metastatic malignant tumors
growing along lymph channels. These processes were obviously the result of
the oil seeping its way along nonresistant paths such as the lymph channels,
or between muscle fibers. The right upper chest and supraclavicular space
were somewhat swollen, but showed no tumor process. The dilated superficial
veins indicated this swelling to be secondary to the circulatory obstruction in
the arm.

Case 5.—History.—Mrs. F., aged 45, appeared for diagnosis, Feb. 15, 1919.
One and one-half years before she had had her ovaries and tubes removed.
She was very ill and camphor oil was injected into her thighs and arms. Four
weeks after the injections she noticed "lumps" forming in her arms, the right
arm being affected first. Within three months the tumors had fully developed.

Examination.—Both arms were mottled a bluish red over the tumor areas.
On the left arm was a hard infiltration involving the outer aspect of the
lower two-thirds. The right arm was similarly involved, perhaps not so much
as the left. Just below the right shoulder was a similar tumor mass almost
encircling the arm, of the same nature and 5 cm. in width. Between these
two plaques was a space of healthy tissue.

The depth and consistency of the tumor masses could only be determined
by palpation. They were concrete-like, lobulated, with sharply defined linear
borders, and at places showed marked angles. They extended deep into the
subcutaneous tissue. The inflamed tumors had a peculiar boggy feel. Running
off from the tumors were deeper beaded lobules like a string of large beads.
These were quite deep and some of them extended in chains to the chest wall.
Similar tumor masses were observed in the thighs. The purplish blue color of
the skin was due to tumors that were somewhat inflamed.

The patient said that her hands and arms became edematous and that
"drawing" pains were felt occasionally in the arms, but on the whole the discom-
fort was not so great as would ordinarily be expected from inflamed
areas of this extent.

Case 6.—History.—Mrs. H. C. was referred to us by Drs. W. H. Vogt and
J. H. Amerland, July 10, 1919, with the diagnosis of tumors due to camphor
oil injections. The patient had been operated on for gallstones, Dec. 8, 1917,
and the operation was followed by pneumonia for which she received numerous
camphor oil injections during December. She underwent a second operation,
Oct. 12, 1918, and received a few morphin injections but no camphor.

Six weeks before coming to us, or one and one-half years after the injec-
tions, she noticed "lumps" developing on both arms—not painful or red, but
slightly pruritic. They all developed at one time and quite rapidly. Within
a week they were as large as when she came to us and were hard, doughy, almost board-like, deep infiltrations, sharply defined, with irregular outlines, angular in places, in groups and lobulated. They were bluish-red in places due to the inflammation. On the right arm the tumor mass was 5 inches long and 4 inches wide, extending transversely. The tumors on the left arm were similar in character but somewhat smaller. On the right shoulder was a tumor, 2 inches in diameter.

The following table is submitted for case in comparing the time of development of the tumors:

<table>
<thead>
<tr>
<th>Case No.</th>
<th>Time After Injection</th>
<th>Remarks on Variations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9 months</td>
<td>None.</td>
</tr>
<tr>
<td>2</td>
<td>2 weeks</td>
<td>Arms ached immediately after injections.</td>
</tr>
<tr>
<td>3</td>
<td>12 months</td>
<td>Inflamed during the fifth year. Still present in the sixth.</td>
</tr>
<tr>
<td>4</td>
<td>6 months</td>
<td>None.</td>
</tr>
<tr>
<td>5</td>
<td>1 month</td>
<td>None.</td>
</tr>
<tr>
<td>6</td>
<td>18 months</td>
<td>None.</td>
</tr>
</tbody>
</table>

In most instances, inflammatory activity of the lesions called the patient’s attention to the trouble. That this may vary will be seen from the foregoing table in which the time varied from two weeks to one and one-half years.

**GENERAL CLINICAL PICTURE**

Aside from the variance in time, or period of activity, the series shows six patients who developed tumors in their arms, and, in some instances, in the thighs also. All had practically these characteristics:

Following the injection of camphor oil for a previous severe illness, deep tumors appear, situated generally on the outer aspects of the lower third of one or both arms and occasionally in the shoulders, thighs or breast.

The tumors are of months’ or years’ duration.

If not inflamed, they have a doughy or concrete-like infiltration varying from the size of a walnut to that of an orange or larger, and are generally lobulated. The size of the tumor depends on the amount of oil injected and the extent of the individual reaction.

Instead of being rounded in outline they are linear, with definite sharp angles limiting them from the adjacent normal muscular tissue.

Bead-like infiltrations of the same nature, but smaller, may be traced toward the axilla or around the periphery, simulating the metastasis, along lymph channels, of a malignant growth.

The skin surface may or may not be elevated or discolored and some of the tumors are discoverable only on palpation. They are practically always deep in the muscle or connective tissue.

The tumors may or may not be painful or even tender. The early discomfort is usually slight.
If they are inflamed, the process is of long duration and the skin will be of various hues, from a red to a deep purple, the color depending on the congestion and amount of inflammation.

The local temperature of inflammatory tumors, of course, is higher than that in the surrounding normal skin.

In none of our cases has necrosis occurred such as is encountered in paraffinomas, but this may be due to two factors: First, the character of the tissue involved, allowing the oil to move in various directions, when the inflammation occurs, up and down the arm between the muscle fibers, along the fascia, or in the lymph spaces. No doubt if the oil were injected in the face, necrosis would occur as in paraffinomas, owing to the differences in tissue favoring necrosis, instead of subcutaneous distribution. The second factor is time. Since most of our marked cases are of recent observation, not enough time has elapsed to enable us to see the end-results. In one case, at least, necrosis has been expected two or three times, and the constriction of the tumors has so interfered with the circulation of the arm as to produce edema sufficient to suggest the necessity for an amputation if the obstruction becomes more complete.

In our first case, diagnosed in 1914, a piece of inflammatory tumor was excised and the diagnosis of the pathologist was tuberculosis, probably owing to its granulomatous character with many giant cells. This first characteristic led us to believe the tumors to belong to the

Fig. 4.—Photomicrograph, low power, of fibroma showing cavities in which camphor oil was encapsulated.
sarcoid class and to be due to camphor oil. In a later case, with practically no clinical inflammation, a piece was excised and the true nature of the lesions discovered.

The term "sarcoid" has been used by Darier and Boeck to differentiate subcutaneous tumors that are granulomas, due in some instances to tuberculosis, while in others the origin is unknown. In some clinical respects the tumors described in this report might at first be so classified in that the inflammatory tumors are granulomas also, but now that their etiologic factor has been clearly established, they no longer belong to the sarcoid group, since they are mechanically-produced, inflammatory tumors, primarily fibromas and later, granulomas.

Ever since paraffin has been injected subcutaneously to remedy various defects, we have been well acquainted with the possible subsequent tumor development and activity. In most instances no difficulty is experienced, for generally the patient is aware that the tumors are due to paraffin when he applies for treatment.

The tumors due to the injection of camphor oil subcutaneously greatly resemble the paraffinomas as to their slow development, their peculiar concrete-like type of infiltration, and the length of time after injection in which they develop. Their location, however, is so totally different from that of paraffinomas as even not to cause suspicion that they are of the same nature and due to the same cause, namely, the subcutaneous injection of an oil, probably mineral.

A theory was advanced formerly that paraffin injected subcutaneously later became organized with the connective tissue and thus remedied the defect for which it was injected. Evidently, this was erroneous. The mineral oil acted as an irritant and a fibroma resulted. If circulatory balance was lost, a granuloma, with ultimate necrosis, was the end result.

A noninflammatory nodule was selected for biopsy as the best tissue in which to study the growth, as the inflammatory lesions represent the end result rather than the early development of the process. We feared to excise portions of very inflammatory lesions and all we have observed have been too large for complete excision.

HISTOPATHOLOGY

The first impression one receives when examining a section of the lesion under low power is that he is looking at a fibroma, honeycombed with holes of various sizes, irregularly distributed, up to 3 mm. in diameter, and so numerous as to remind one of a cross section of a piece of sponge. In some areas, there is a fretwork design with the thinnest limiting network, giving somewhat the appearance of fat tissue.
When the oil is injected, it is deposited between the connective tissue and in the lymph spaces, remaining there as an inert foreign body. The localized pressure stimulates a very low grade of temporary inflammation with the gradual production of new connective and fibrous tissue, and a fibroma is gradually produced encapsulating the oil.

The epidermis is unchanged in the sections owing to the depth of the tumor, though later, perhaps, it would undoubtedly alter its char-

Fig. 5.—Photomicrograph, high power, of the cavities of fibrous tissue containing the encapsulated oil; the lining fibers have no nuclei.

acter as the late secondary inflammation develops, pushing upward, following the lines of least resistance, flattening from pressure and other secondary changes, according to the degree of activity.

Elastic Tissue.—The elastic immediately under the epidermis is unchanged, but in the lesion itself it is almost entirely destroyed, there
being only a few strands immediately around the blood vessels. The tumor might be outlined in its entirety by the absence of elastic tissue in the lesion and its presence in the normal tissue surrounding it.

Lesion a Fibroma.—The lesion in its early state is a true fibroma and, when activity occurs, it becomes a granuloma with giant cells. It consists of long bands of fibrous and connective tissue. The longitudinal fibers are separated, parallel, and evidently held apart by the oil.

Oil Cysts.—That the oil is held in large and small drops is evidenced by the almost perfectly spherical spaces from which it has been removed in the process of mounting. The capsules consist of from two to five concentric rings of fibrous connective tissue, according to size. The inner one lining the cavity is perfect, without any break in its continuity, thus preventing the escape of the oil—in other words, the cavities are cystic in character. These lining bands of fibrous tissue are evidently of long duration and contain no nuclei. They have different tinctorial affinities and attract the basic instead of the acid stains, the inner layers mostly taking the basic stains.

While the serial sections have not been completed for this preliminary report, there is evidence that these encapsulated drops of oil are spherical or globular, forming oil cysts, in that some sections show round platelets of fibrous tissue where the microtome knife has just begun to cut into the mass on a tangent and yet not cut into the capsule proper. These open spaces are almost the counterpart of those described in paraffinomas by Heidingsfeld as resembling aerated Swiss cheese.1

The fibrous and connective tissue between these round spaces is a little different from the capsule tissue in that nuclei are present. It is held apart and honeycombed by the oil, forming round and oval spaces throughout the lesion, independent of the oil capsules. In some spaces the tension has been so great as to thin the limiting strands into fretwork like fat tissue.

As in this case the tumor was quite deep and the amount of clinical inflammation negligible, the amount of microscopic evidence of inflammation was very small. In occasional areas small groups of leukocytes were observed, but not in dense numbers; generally they were in the vicinity of and around blood vessels. The changes were early and fortunately gave a better idea as to the cause of the activity than is described by students of paraffinomas in which they found very marked inflammatory changes with many giant cells. As no giant cells are

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present in the sections of this early lesion, like those described in paraffinomas, they undoubtedly belong to the terminal stages of activity, thus giving a microscopic picture of a granuloma resembling a tuberculid.

Blood Vessels.—A very striking feature of the sections is the thickening of the blood vessels and these thickened vessels probably explain the changes the tumors undergo when they become active after months or years of quiescence in either camphor oil tumors or paraffinomas.

New blood vessels are formed and become enormously thickened. The walls of capillaries are greatly thickened, consisting of hypertrophic cells with nuclei, and everywhere show evidence of distention. A few fibers of elastic tissue, best seen with Weigert's stain, are generally present around each vessel. The elastic tissue around vessels is the last to be destroyed by the process.

Cause of Tumor Activity.—As long as compensatory circulation is present in the tumor masses, no trouble ensues, but after varying periods of time the circulatory balance is lost, venous stasis develops, leukocytes escape, localized edema occurs, and a mechanical hypostatic congestion is produced with the resulting gross clinical picture that is characteristic of all patients: various degrees of congestion, inflammation, interference of the arm circulation—all depending on the obstruction, or even constriction, caused by the presence of fibromas with their encapsulated masses of oil.

The phagocytosis with giant cell formation described in paraffinomas represents nature's effort to restore a disturbed circulation.

The sweat glands were not disturbed except to be pushed aside by the fibrous tissue. There was no evidence of malignancy—the future will determine that.

The similarity of the clinical behavior, as well as the histologic picture, of the camphor oil tumors and paraffinomas is striking. In one case in which hot applications and massage were instituted, the tumors increased in size and invaded areas hitherto not involved, a process sometimes observed in the activity of a paraffinoma.

TREATMENT

Rest and elevation of the affected extremities have so far best alleviated the inflammation that these tumors undergo. This should be continued over long periods of time or until fibrosis is as complete as possible. Excision would be ideal, but, so far, all the lesions we have seen have been too extensive for this procedure.

Heat and massage are contraindicated, for the two patients who tried them increased the inflammation and the tumors were disseminated into larger areas.
Roentgen-ray treatment, though recommended for paraffinomas and of doubtful value in our first case, would seem to be more or less dangerous owing to its possible effect on the already disturbed circulatory balance in the tumor mass.

Nature will probably produce a fibrosis with newly formed blood vessels to take care of the more or less permanent condition. In time, atrophy may follow the subcutaneous hypertrophy of connective and fibrous tissue.

Fig. 6.—Photomicrograph, high power, oil immersion, showing few inflammatory cells around a bifurcating blood vessel in the center of the camphor oil tumor where the tumor activity originates.

THE MINERAL OIL

The necessarily inert and stable character of the oil in the globules from excised tissue suggests at once that the oil might be a mineral or paraffin oil. Parallel staining reactions between oil from the tissue and
mineral oil strengthens this suggestion; both stain with sudan III, but fail to stain with osmic acid.

In at least two of the cases, the camphor oil was manufactured by a well-known drug manufacturer, and in one we obtained some of the oil in the same batch that was bought by a local druggist. The camphor was put up in a mineral oil and, in all respects, reacted to the same tests as the oil recovered from tissue excised from one of the patients.

O. Jacob and J. L. Faure have reported similar cases of tumors produced by camphor prepared with the liquid petrolatum.

Our studies thus far have shown that mineral oil may remain as an inert foreign body in tissue, whether injected as paraffin to correct facial defects, or as camphor oil injected in the arms, thighs or breasts, as a stimulant during an operation or any severe illness.

The inflammatory tumors that may result from either are more or less serious and the use of camphor oil as a stimulant should be discontinued until researches show that it can be made innocuous with a vegetable or animal oil, or some other vehicle that will be absorbed immediately after injection with no ultimate bad effects.

We have not thus far determined whether animal or vegetable oils will produce the same tumor reaction as the mineral oil— one of us is carrying on this investigation. Nor can we explain the comparatively small number of patients who react in this manner when we consider the long and universal use of camphor oil injected as a stimulant, but we believe it to be of frequent occurrence. Liquid paraffin has long been used as a vehicle for salicylate of mercury and calomel and every one who uses these remedies as injections in the buttocks is familiar with the persistence of nodules that may remain for years.

We sent for one of our patients who had received numerous injections of 10 per cent. salicylate of mercury in liquid paraffin over five years ago. She still has angular nodules deep in the muscles. They are not inflammatory and have caused no inconvenience. They are probably of the same nature as those due to camphor oil, but biopsy was refused.

The danger of emboli from paraffin oil as a vehicle for mercurials has long been known and these cases but add another warning against the use of the product. Heidingsfield mentions Febriger's case of death from the injection of olive oil. The necropsy revealed fat emboli in all the viscera, particularly the lungs and the brain.

CONCLUSION

We believe that it is dangerous to use mineral oil as a vehicle for any remedy to be injected into subcutaneous tissue. This fact has been well established in regard to paraffin injections, and the tumors resulting from the injection of camphor oil incorporated in a mineral oil strengthens the conclusion.
COMMON DISEASES SEEN IN BRITISH HOSPITALS AS SEEN IN SIERRA LEONE. W. A. Young, p. 9.

Among other diseases syphilis is common although parasyphilis is not frequently encountered—probably because the syphilitics are carried off earlier by some intercurrent disease. Primary sores are rarely seen, secondary eruptions are infrequently observed, but tertiary lesions are common, many being of the ruploid type. A positive Wassermann reaction is obtained in a large percentage of cases. Among prisoners there is a definite syndrome—pains in the back and waist, anemia, thickened veins and lethargy—which quickly yields to treatment. Infant mortality is very high, and probably accounts for the fact that congenital syphilis is rarely seen.

THE ETIOLOGY OF SPRUE, PELLAGRA AND SCURVY. Lucius Nicholls, p. 21.

According to the author, these three diseases have much in common with regard to their etiology, diet and infection bearing on each disease.

In respect to microbic infection he places sprue first, with pellagra second and scurvy last, this order being reversed in considering dietary disturbances in a causal rôle.

He discusses in detail the similarity existing in the symptoms of these diseases, stating that the Streptococcus viridans is the only culturable organism always present in sprue.

Good results were obtained with vaccine. He concludes that one factor in sprue is an invasion of the superficial layers of the mucosa of the alimentary tract by a streptococcus of low virulence. This streptococcus cannot at present be distinguished from the Streptococcus viridans, which can be found in the normal mouth.

While scurvy is apparently due to a diet deficiency alone, he thinks that a bacterial factor may enter into the etiology, as surgeons in the Indian medical service state that scurvy is preventable and curable by strict attention to mouth cleanliness.

A low virulence organism of a different class may be found to be the etiologic factor in pellagra.

SOME NOTES ON THE TREATMENT OF LEPROSY. A. Connal, p. 37.

Four methods of treatment were tried at this asylum, namely, chaulmoogra oil, nastin, Heiser's combination of chaulmoogra oil with camphorated oil and resorcin and gynocardate of soda.

A review of the case records gives the impression that not one drug alone is specific, but that a combination of methods, changing from one to another,
has given the best results in these cases. Some cases improved without drugs while some relapsed whether treated or not.


Mention is made of a case of ringworm due to this variety of tricophyton in a negro boy aged 7. No cases had been seen in Khartoum for the past five years.

Clinically the infected hairs were broken off close to the scalp and there were no inflammatory lesions.

SUDANESE EXAMPLES OF TWO COMMON HYPERKERATOSES.

This article deals with a case of pityriasis rubra pilaris and is opened by a discussion as to the history of the nomenclature of pityriasis rubra pilaris of Devergie and the lichens (lichen ruber acuminatus, lichen ruber planus and lichen ruber), the authors being convinced that pityriasis rubra pilaris of Devergie and lichen ruber acuminatus of Kaposi are identical. In further discussion they also conclude that pityriasis rubra pilaris is not the same as the lichen planus of Erasmus Wilson. They believe that the lichen ruber of Hebra would be more happily termed lichen neurotopus and be considered as a distinct variety belonging to the lichen planus group.

The description of this case of pityriasis rubra pilaris is very long and minute and together with the discussion not suited to abstracting. They consider it probably due to a toxin having a tuberculous origin as giant cells are seen in the sections. It should be classified as essentially a tuberculid, the hyperkeratosis being secondary. The patient, however, showed no signs of active tuberculosis.

They consider it quite distinct from acnitis, lichen nitidus and lichen scrofulosorum, though having some points of similarity of causation with ichthyosis.

Treatment with thyroid extract, alkaline baths, ointments and arsenic were all tried without any noticeable result.

A FEW NOTES ON "BOSCH-YAWS," THE DERMAL LEISHMANIA-
SIS OF DUTCH GUIANA. E. Bonne, p. 122.

"Bosch-Yaws" was shown in 1911 to be a leishmanial skin infection presenting one or more ulcers on the uncovered parts of the body. A description is given of a lymphatic type of the disease, the nasal complications and a pseudoelephantiasis type. The natives believe that wounds from a certain type of thorn will cause the disease, but the theory is also advanced that the source may be the bites of ticks.

LICHEN SCROFULOSORUM IN THE SUDAN. A. J. Chalmers and

The authors' case was one of the usual type occurring in a negress in whom Potts' disease of long standing was the source of tuberculosis. They consider the disease to be a tuberculid due to anaphylactic action.

The patient was treated with cod-liver oil externally and internally, but the result was not known as she disappeared from observation.
BRIEF NOTES ON THE CULTURAL CHARACTERS OF TRICO-
PHYTON BALKANEUM CAST., THE CAUSE OF A PSEUDO-
PITYRIASIS CAPITIS. ALDO CASTELLANI, p. 173.

The writer found this organism in cases in Macedonia in which there was
a peculiar condition of the scalp resembling a severe pityriasis sicca. Only
adults were affected, the whole scalp being sometimes involved with some
thinning of the hair. The action of the organism on various culture mediums
is given in detail.

JAMIESON, Detroit.

SYCOSIS BARBAE. HENRY C. SEMON, Practitioner 104:48 (Jan.) 1920.

Semon emphasizes the complex etiology of the sycooses and classifies the
various types of infection and the diseases which may imitate them. He dis-
cusses seborrheic sycosis, coccogenic sycosis, tinea sycosis, lupoid and syph-
ilitic sycoosis. Special attention is given to the subject of coccogenic sycosis.

Although commonly known as barber's itch, the condition is in a large
majority of cases due to self shaving with a blunt razor, numerous micro-
scopic abrasions thus produced becoming infected with the staphylococci and
streptococci present on the normal skin, and not by infection from without.
Infection spreads from these foci and within a few days the result of the
infection becomes apparent to the naked eye. Semon states that in the earliest
stage, which he calls the irritated stage, great harm is done by the usual
method of treatment with irritating antiseptics, especially ammoniated mer-
cury ointment. He recommends that instead of a soothing lotion, preferably
an alkaline calamine lotion, be used. When the second stage develops, infec-
tion coexisting with irritation, he suggests mild antiseptic applications, and
prefers a solution of mercuric cyanid (1:4,000) because it is not irritating.
Ointments are badly borne because they are irritating if efficiently bacteri-
cidal, and their greasy nature favors spread of the infection under the greasy
protecting film.

The third stage, when the infection is firmly established in the hair fol-
llices, would never be reached if the condition were treated properly in the
earlier stages. Treatment at this time taxes the resources of the physician,
and Semon finds roentgen-ray epilation best, but warns that it should not be
used in acutely inflamed septic cases until the secondary dermatitis has been
allayed by soothing applications. He has found vaccines practically value-
less in sycosis.

SNEAR, Chicago.

PROTECTIVE FUNCTION OF SKIN (ESOPHYLAXIS). ERICH HOFF-
MANN, Deutsch. med. Wehnschr. 45:155 (Nov. 6) 1919.

According to Hoffmann, and other writers whom he mentions, the skin not
only guards against internal injuries but it also protects the viscera of the body
from the injurious effects of disease coming from without. As proof of his
assertion, Hoffmann refers to the relative freedom from involvement of the
viscera in cases of extensive tuberculosis of the skin, the skin manifestations
of syphilis and the various exanthermatous diseases. The fact that death ensues
when a considerable portion of the skin is destroyed by burns, the existence
of skin allergy and immunity, and the therapeutic value of light baths are
regarded as points in favor of the theory that the skin has an "internal" protective function. Further proof is found in the histologic structure of the skin, especially of the rete malpighii, and the popular belief that the severity of the constitutional manifestations in the various exanthematous diseases varies with the extent of the skin eruption, the greater the exanthem, the less the involvement of the internal organs. Hoffmann terms the skin "the grave of parasites." The various allergic skin reactions, such as the von Pirquet, are regarded as evidence of the protective function on the part of the skin. The favorable effect of light baths, heliotherapy, etc., on the whole organism and on deeply situated pathologic conditions, is ascribed to the stimulation of an internal secretion by the epithelium of the epidermis which has a curative effect on the constitutional disease, no matter where situated. The action of the roentgen ray in the treatment of lupus is similarly explained. Hydrotherapy not only promotes the excretion of toxins by the skin, but it also stimulates its internal secretion function. The same is true of mercurial inunction and skin irritants, like mustard.

Hoffmann dwells particularly on the freedom from disease of the internal organs in cases of extensive cutaneous syphilis and lupus vulgaris. Paralysis and tabes are rarely associated with the skin lesions of tertiary syphilis, and in countries in which these skin lesions are of common occurrence, in fact, endemic, the neuro-syphilitic diseases are of infrequent occurrence. In cases of paralysis and tabes of syphilitic origin the skin lesions are very slight, hence it is probable that the skin manufactures its protective substance in sufficient quantity to exert a favorable effect on the neurosyphilitic manifestation. Hoffmann claims to have found highly virulent spirochetes in the blood at least three weeks before roseola was manifested, and he suggests that in the absence of sufficient protective skin function the nervous system is attacked. A spirocheticidal action is also ascribed to the lymph nodes. Hoffmann found that the spirochetes were more numerous in the primary than in the secondary stages of syphilis. Gumma and other tertiary manifestations in the lymphnodes are uncommon, and for this reason it may be assumed that they, too, exert protective action. A similar function is assigned to the meninges and the ectodermal brain tissues, although this does not ensure subsequent freedom from the disease, as in the case of the lymph nodes.

For this protective function of the skin, Hoffmann proposes the term esophylaxis. He believes further research will show that this function can be stimulated artificially, as, for instance, in the case of syphilis by the injection of luetin in gradually increasing doses.

F. C. Z.

VENEREAL DISEASES AS WE SEE THEM TODAY. J. E. R. McDonagh, Practitioner 104:14 (Jan.) 1920.

McDonagh states that he wishes to sum up the successes and failures in the treatment of venereal diseases during the past six years.

The eyes of the public have been opened to the dangers of venereal diseases, and patients come earlier for treatment. The incidence of the diseases has not been reduced, however, and as a result of the exaggerated pictures which have been drawn of the rarer sequelae of the diseases, patients have become subject to venereal neurasthenia, infinitely more difficult to cure than the actual disease itself. Modern prophylactic measures, he feels, are no improvement
over micturition and the use of soap and water immediately after exposure. He is also opposed to free treatment as less control is exercised over the patient, since the less educated place little value on anything they get for nothing, while the educated take advantage of free treatment when they could afford to pay for it. A further criticism is offered against the tendency to allow laboratory tests to overshadow clinical diagnosis.

The remainder of the paper is devoted to a prolonged discussion of the value of colloidal preparations in the therapy of venereal and other diseases, the author ascribing great value to intramine as a reducing drug which enhances the efficacy of arsenic and mercury, prevents toxic effects from these drugs, vastly reduces the percentage of cases of nervous system syphilis, etc.

**Senear, Chicago.**


Solomon in this article evaluates the various laboratory methods of examining the cerebrospinal fluid. There are five tests. The Wassermann reaction, the tests for an increase in albumin, the test for globulin, the colloidal gold test of Lange and the cell count. Solomon points out that the tendency of the discoverers of these tests has always been to claim more or less specificity for each of them. He summarizes in his article the results of the experiences of the Boston Psychopathic Hospital in a large series of spinal fluid examinations by these different tests, and calls attention to the fact that only the positive Wassermann reaction in the spinal fluid is pathognomonic of neurosyphilis. The other tests merely indicate some inflammatory process involving the central nervous system. With the exception of the Wassermann test, none of these tests, either singly or in combination, is characteristic of any one disease. The process may be meningitis, an encephalitis, a tumor with sympathetic meningitis, inflammation following a vascular insult or injury, or a disease like multiple sclerosis; in all of these the changes in the spinal fluid are the same, showing one or more of these several reactions. He points out that no spinal fluid can be said to be negative until all of these tests have been applied.

**P., Chicago.**


Baudouin and Lantuejoul review the subject of motor paralysis associated with herpes zoster and note many cases recorded in literature. They state that these paralyses are a rare complication, but that all of the cases have certain points in common. The paralysis is always unilateral, and affects the same side as the zoster. The location is determined by nerve distribution and the motor trunks affected are anatomically connected with the posterior ganglions which the eruption shows to have been involved. The intensity of the paralysis is very variable. The paralysis is always flaccid, and is never accompanied by contracture. Disturbances of sensibility usually coexist, especially pain. The tendon reflexes are affected in the corresponding location. Trophic disturbances may also occur. Finally, the reactions to electric current are
changed. The motor changes usually develop later than the eruptive elements. The paralysis may last but a few days or may persist for weeks or months. It is benign, however, and finally disappears, leaving no trace.

SENEAR, Chicago.


A mammary carcinoma in a dog was transplanted by injection into 134 dogs, some dogs receiving several inoculations. After variable periods of time the animals came to necropsy or were examined with the result that six of these transplants were discovered, only four of which showed viable cancer cells. The same experiment was performed with twenty-five cats, using a cat fibroma and transplants for a total of forty-six inoculations. Twelve viable transplants resulted from the original tumor, but all were absorbed in the course of time. None of the secondary transplants lived. An actual transplantable tumor was not obtained in either series of experiments. The writer states that these experiments present the same problems that are met with in attempts to make autotransplantations and homotransplantations of normal tissue in higher animals.

FOERSTER, Milwaukee.

EXPERIMENTS WITH STEAM DISINFECTORS IN DESTROYING LICE IN CLOTHING. R. H. HUTCHINSON, J. Parasitology 6:65 (Dec.) 1919.

Hutchinson carried out a number of experiments on the destruction of lice in clothing by steam, and he found that if the penetration of steam is sufficient to produce a temperature of 75 C. (167 F.) in the center of a barracks bag, all eggs and active stages of body lice will be destroyed. Efficient operation of the disinfector demands:

1) The maintenance of a full head of steam so that 15 pounds' pressure in the disinfector is produced within five minutes, thus allowing at least ten minutes for exposure; (2) overloading must be guarded against; (3) the individual bundles must not be rolled too tightly.

SENEAR, Chicago.


The examinations were performed on 189 patients in the Memorial Hospital, employing as normal values these figures:

- Nonprotein nitrogen .......... 28 to 35 mg. per 100 c.c.
- Urea nitrogen ................. 14 to 18 mg. per 100 c.c.
- Uric acid ...................... 1 to 2.5 mg. per 100 c.c.
- Amino acid nitrogen .......... 7 to 8 mg. per 100 c.c.
- Sugar .......................... 90 to 110 mg. per 100 c.c.

Uric acid and blood sugar content showed no appreciable abnormality in patients without renal disease, diabetes or melanoma. Nonprotein nitrogen and urea nitrogen content were low in cancer patients, these findings being at times masked by other pathologic conditions.
Amino acid nitrogen was found to be slightly above normal. Tables were compiled to show the variations with different ages and different locations of the malignancy. Attention was called to the chemical similarity of the blood in cancer and pregnancy, both of which conditions show rapid cell proliferation in the body and definitely low blood nitrogen figures.

Foerster, Milwaukee.

SUR UN INCIDENT DU AU CYANIDE MERCURE INJECTION INTRAVEINUSE. Léon Renard, Presse méd. 27:808 (Dec. 27) 1919.

Renard calls attention to what he believes to be a new observation in the use of cyanid of mercury intravenously. He states that in his experience one out of each three patients injected notices an odor of bitter almonds. He believes that the patient should be warned before treatment that he may notice such an odor, and that the cyanid element in the drug is not negligible and may explain some of the deaths following injection of cyanid of mercury.

Senear, Chicago.


Based on the ++ reactions alone there were 10.5 per cent. of syphilitics among the white, and 18.3 per cent. among the colored soldiers. Considering the + reactions in this series the percentage of syphilitics was 13.8 for the white and 24.1 for the colored soldiers. It is estimated that the same and probably higher percentages of syphilitics exist among the white and colored civilians between the ages of 21 and 31.

Levin, New York.

QUELQUES REFLEXION SUR LE TRAITEMENT DES BUBOUS CHANCRELEUX FOR LE DRAINAGE FILIFORM. André Floquet, Presse méd. 28:5 (Jan. 3) 1920.

Floquet asserts that in the treatment of persistent chancroidal bubos the best results are obtained by the use of filiform drainage, if two essentials are observed. First, the drainage should take place from the edge of the infected pocket, at the extreme limit of the infected zone. Second, of almost equal importance is the removing of the horsehair at the proper time, for if left in place too long it may determine fistulous openings.

Senear, Chicago.


Thirty-three cases of aortic insufficiency are reported. No other cardiac disease was clinically present. In only 11 per cent. of these cases was the Wassermann reaction positive as against the higher rates of other writers.

Undisputed histories of rheumatism were obtained in 57 per cent. of the cases. Questionable histories of rheumatism and histories of frequent attacks of tonsillitis were noted in 15 per cent.

Levin, New York.
CASE OF INTRAMINE DERMATITIS. A. R. Fraser, Practitioner 104: 40 (Jan.) 1920.

Fraser describes a case of generalized dermatitis occurring in a syphilitic patient given an injection of intramine (di-ortho-amino-thio-benzene). As the patient developed a similar eruption following an injection of arsphenamin that had been given previously, and later had another attack after an injection of novarsenobillon, he concludes that the patient’s skin had a marked susceptibility to the action of drugs, and that he was constitutionally prone to dermatoses. It is possible on the other hand, that he may have had an idiosyncrasy to one particular or radical group, the amino or benzene groups common to these three drugs.

Senear, Chicago.


The author states that in performing the Wassermann tests readings should be taken every fifteen minutes after the hemolytic system has been added and the tubes placed in the incubator or water-bath. By so doing there will be a certain number, about 1 per cent., that will give a so-called “delayed negative” reading. Of these nearly three-fourths will give either a positive or suspicious history in regard to venereal disease.

Levin, New York.


In discussing the causes of nonunion of fractures, the author remarks that syphilis may be the cause even in the absence of history and manifestations of the disease. A Wassermann test should be made in all cases in which delayed union is suspected.

Three of the author’s sixty-four cases of delayed union had positive Wassermann reactions but there were no apparent manifestations.

Tonlinson, Omaha.


Adamson, having seen a number of cases of Schamberg’s disease, concludes that it may be regarded as an entity, and not a mere pigmentation from vascular congestion associated with long standing and with varicose veins. He reviews the seven published cases, and adds the findings in five cases seen by himself. He presents the outstanding features in the clinical and histologic picture in each case.

Senear, Chicago.

CULTURAL STUDIES ON A CASE OF SPRUE; PRELIMINARY NOTE. Wade W. Oliver, J. A. M. A. 74:27 (Jan. 3) 1920.

A yeast, Monilia of Ashford, was recovered from the stool, tongue, sputum and a tooth abscess of a case of sprue.

A guinea-pig died after an intraperitoneal injection of some of the culture, and the yeast, mixed with Staphylococcus aureus, was found in the liver and gallbladder.

Levin, New York.

Barber has investigated a number of cases of lupus erythematosus, and concludes that, in some instances at any rate, the disease is due to the absorption of the toxins of a Streptococcus longus with tonsillar foci. He gives detailed observations on the course of a case seen by him in which this organism was apparently the cause of the disease.

SENAR, Chicago.
LUPUS VULGARIS (SHOWING RESULT OF KROMAYER LIGHT TREATMENT). Presented by Dr. J. J. Rothwell.

A white boy, from the service of Dr. Trimble at the Skin and Cancer Hospital, aged 13, of Dutch parentage, presented on the right side of the neck from the ramus of the jaw to the clavicle, dark pigmentation with areas of white skin. The patient had previously been presented at the meeting of November, 1918, when apple-jelly nodules were readily apparent. Kromayer unfiltered compression treatment had been continued at three or four week intervals since that time. Each new outbreak of nodules subjected to the treatment had succumbed, and the cosmetic effect was fully as satisfactory, if not more so, than was to be secured from any other plan of treatment. The scarring was of a soft, smooth character, altogether different from the usual scar of the affection. In this case, apparently the recurrences were amenable to this plan of treatment.

ANNULAR LICHEN PLANUS. Presented by Dr. J. J. Rothwell.

A white man, from the service of Dr. Trimble at the Skin and Cancer Hospital, born in the United States, aged 38, presented numbers of variously sized annular lesions with cleared centers and slightly infiltrated thin borders, which were papular, purplish in hue, flat at the summits, and had previously been the source of great pruritus. The eruption was of several months' duration and at first had not been annular. There was also a history of a previous attack of lichen planus.

DISCUSSION

Dr. W. J. Highman said that this was a most interesting case of lichen planus annularis, because the center of the lesions was atrophied and represented the morpheiform type, if not the true lichen sclerosus.

Dr. J. J. Rothwell asked whether lichen planus sclerosus did not always produce white lesions.

Dr. W. J. Highman replied in the affirmative, but said there was no reason why the blanching process could not require four years for completion. This patient had two lesions that were distinctly whiter than the rest of the skin, with underlying vessels showing through, as seen in scleroderma or acrodermatitis atrophicans.
ANNULAR LICHEN PLANUS. Presented by Drs. L. Charkin and E. W. Abramowitz.

William K., aged 48, born in Switzerland and having lived thirty years in this country, a butcher, married, and the father of seven children—all alive and well—whose wife had had one miscarriage, had always been in good health with the exception of having typhoid fever twenty-one years ago. About twenty-five years ago he had a chance. He received internal treatment for about three months, and had never complained of illness since. The present trouble began about eighteen years ago, when an eruption appeared on his arms and forearms. This lasted about one month and left very little staining. There was little itching. Since then, he had had several relapses. The present eruption was of about three months' duration and was located on the backs of the fingers, on the hands, wrists and dorsa of the feet. The affection consisted of pinhead sized papules, violaceous in color, arranged in a circinate and annular manner and of the size of a five-cent piece. There were a few isolated papules. Umbilication and plugging was a feature. The older lesions were on the dorsa of the feet, showed clear centers and scaly edges, and the circles varied from the size of a five-cent piece to that of a quarter. There were lichen planus lesions on the tongue, leukoplakia at the angles of the mouth and Fordyce's disease on the mucous membranes of the cheeks at the dental closures. A Wassermann test had been made but a report had not yet been received.

ADENOMA SEBACEUM. Presented by Drs. I. Rosen and Wolf.

A. W., aged 11, presented himself at the Mount Sinai clinic on Nov. 1, 1919. He was the second of four children and the only one affected. The parents were normal. The face presented numerous small nodular growths varying in size from a pinhead to a split-pea, and they were situated on each side of the nose and on the cheeks. Their color varied from red to brownish-yellow, and numerous telangiectases were present coursing between the nodules. The condition had been present since birth without much damage. Mentally, the patient was deficient, probably measuring up to 5 or 6 years on the Binet scale.

DISCUSSION

Dr. Wolf said that the case was especially interesting because the patient showed other congenital malformations of the skin in addition to malformations of internal organs. He had several pea-sized growths on the scalp and two on the right buttock which were probably molloscum fibrosum lesions. The right kidney had been removed on account of a fibrosarcoma.

Dr. H. Goldenberg said that Dr. Lapowski's statement that this case was unique was not correct. The syndrome of adenoma sebaceum with various other manifeststions, such as fibroma molluscum, intellectual defects, epilepsy, the so-called tuberous and cerebral sclerosis of Bourneville and kidney tumor, was well known and had been observed by a number of authors. This boy was admitted to the surgical service of Mount Sinai Hospital with many disturbances, and the presence of adenoma sebaceum in combination with the other symptoms mentioned prompted the speaker to make the probable diagnosis of a congenital kidney tumor of the Wilms type, prior to the operation.

Dr. B. Lapowski referred to a most interesting case described by an Italian in the Annales di dermatologie et syphiligraphie of 1914-1915, which corre-
sponded very closely with this one in the mental and clinical symptoms. At necropsy peculiar tumors were discovered—different kinds in the heart and kidney—not sarcoma. The patient was a young man between 24 and 29 years. It would be interesting to read that report in connection with this case. The syndrome, the deficiency of intellect, the epilepsy, molluscum fibrosum, etc., were very well known and had been described by various authors but this was the only case he knew of in which the necropsy findings had been reported. Changes in the suprarenal glands had also been found. Dr. Lapowski suggested treatment with suprarenal gland extract.

Dr. W. J. Highman expressed the desire to have some information as to what practical result might be expected on these tumors from the administration of suprarenal extract, a drug that contracted the vessels.

Dr. Wolf said that if the case should go to necropsy it would be a very interesting second case to report. At present, however, they proposed to put the patient on endocrine treatment, and if any improvement resulted he would be presented again.

TUBERCULOSIS VERRUCOSA CUTIS. Presented by Dr. P. E. Bechet.

M. S., a male, aged 51, from Dr. Trimble's service at the University and Bellevue Clinic, stated that he was operated on for fistula-in-ano on April 4, 1917. A second operation was performed Dec. 25, 1918. In March, 1919, he first noticed the eruption. The patient stated that there was a rapid increase in the eruption during the three months previous to presentation. The eruption was limited to the anal region and consisted of a large verrucous, papillomatous, hypertrophied patch with a seropurulent fluid in the interstices of the papillary projections. At the perineum, there was some tendency to indolent, undermined ulceration. There was marked surrounding infiltration. A biopsy demonstrated the presence of "giant cells" with homogeneous centers and peripherally arranged nuclei.

CARCINOMA IN A SYPHILITIC PATIENT. Presented by Dr. B. Lapowski.

J. B., a man, aged 40, had been married for ten years, and had one child, a girl, living. Eighteen years ago he had an ulcer durum, with secondaries, and was treated with injections for one year. Eleven years ago he had a right palmar syphilid and received mixed treatment for six months. Two years ago he had leukoplakia of the mouth. The present trouble started four months ago, and he received two intravenous injections of some drug.

Three months ago he was sent to the clinic with (1) a tumor occupying two-thirds of the inner surface of the right cheek, a part of the tumor protruding from the right corner of the mouth; (2) leukoplakia on the upper lip, cheeks and tongue. July 29 the Wassermann reaction was ++ + +. He was treated with calomel injections (22/7, 30/7, 6/8, 19/8, 4/9) and rubbings, 20 G., followed by great improvement. The patient could open his mouth and the tumor flattened. Salivation increased, however, and the tumor started to enlarge, spreading to the lower lip, and the portion which was originally protruding increased in size and rapid necrosis followed.

Then the patient received intravenous injections of arsphenamin (16/10, 20/10) and neo-arsphenamin (1/10, 3/10, 3/11); the Wassermann reaction was 23/10 ++ ++. He was also treated locally with iodoform gauze and gargar.
Ten days ago when the destruction was rapidly progressing, he was kept in bed for a week and was given Decoctum Zittmanni, but there was no improvement.

Dr. B. Lapowski said that by reading the literature and descriptions of such cases it would be seen that some men (and he had belonged to that class in the past) imagined that by treating such cases specifically in the beginning they improved and were better able to stand an operation in case the syphilis was combined with epithelioma; but he regretted it afterward on account of the rapid destruction resulting from salivation. From now on, however, he would never again treat any epithelioma of the mouth on a specific basis, with either mercury, calomel, or rubbings—only with arsphenamin.

DISCUSSION

Dr. A. Rostenberg said that he had seen the patient at a clinic in June, and he then had a lesion the size of a silver dollar on the buccal mucous membrane which was thought to be an epithelioma on a gummatous base, and specific treatment was advised for a short while only, with the idea that if improvement did not result immediately it should be treated as a carcinoma. It would seem that specific treatment had been given entirely too long and that the patient should have been treated surgically much sooner.

Dr. H. Goldenberg said that his impression when he saw the case with Dr. Lapowski two weeks before was that Dr. Lapowski considered the lesion a gumma and expected to show the case again, cured by antisyphilitic treatment. He was very glad to see that the doctor had changed his mind in regard to the diagnosis, as Dr. Goldenberg and his assistants who saw the case through the kindness of Dr. Lapowski were all of the opinion that it was a carcinoma.

Dr. S. Pollitzer said that of course all dermatologists had seen cases of necrosis of an epithelioma which had run a very rapid course, quite independently of antispécific treatment. They were seen long before the days of salvarsan and would probably be seen as long as the world exists or until there is found some means of recognizing epithelioma definitely and positively at its first appearance. There is only one way of recognizing epithelioma, and this method should be practiced in every doubtful case—biopsy should be performed followed by immediate operation if malignant degeneration was found. Unfortunately, cases of epithelioma occurring in syphilis were the source of a great many mistakes, and it was difficult to see how they could be avoided unless one always carried in mind the possibility of epithelioma. These cases are the worst forms of epithelioma that we have to deal with and they are always extremely malignant.

He recalled a case he had seen many years ago in which a minute ulceration, started by a jagged tooth, had resulted in a perforation of the cheek in three weeks, followed by death from general carcinosis within a month. Any one might fail to recognize an epithelioma in a syphilitic when it first appeared, nor was it probable that the course this case had followed was influenced by the antisyphilitic treatment.

Dr. Lane said that his feeling about cases of doubtful gumma or carcinoma of the mouth was that if not influenced most decidedly by ten days of antisyphilitic treatment they should be sent to a surgeon for biopsy, and if carcinoma were found operation should be performed at the same time.
As to the bad influence of antisyphilitic treatment on carcinoma of the mouth on a syphilitic base, there was of course danger of injury if mercury was pushed to the point of salivation and stomatitis, which was easily brought about in such cases. If used with arsphenamin for a week or ten days for diagnosis, this was unlikely to arise. He had seen no unfavorable results from the use of arsphenamin. As to there being a contra-indication for the use of the roentgen rays in such cases, he thought the contrary to be the case. They were indicated after operation, and were also indicated in inoperable cases, in which they frequently gave great relief.

Dr. B. Lapowski said when he first saw the case on July 9, it was in just about the condition as presented—inoperable. The patient having a Wassermann positive on two examinations and giving a clear history of syphilis, there was no reason why he should not be treated antispecifically, but with the greatest care; calomel injections to be avoided, even rubblings to be very guardedly given, owing to the danger of salivation. In such cases arsphenamin was the remedy.

EPITHELIOMA OF THE LIP. Presented by Dr. J. J. Rothwell.

A white man, aged 24, an Italian, from the service of Dr. Trimble at the Skin and Cancer Hospital, presented on the right side of the upper lip a crusted lesion about one-half inch in diameter which, when inspected at the time of his first visit, seemed to possess a very fine rolled border, such as epitheliomas usually present, and was crusted. The condition had been present for twelve years and was not accompanied by subjective symptoms. Under salicylic acid salve the crusting had disappeared, and the border seemed to be less epitheliomatous in appearance. The Wassermann reaction was negative. According to the history, the condition had not been constant, and recently it had suggested an inactive sycosis.

DISCUSSION

Dr. W. J. Highman said that he had not been able to see the condition very well with the light available, but he had rather thought the diagnosis of epithelioma likely to be correct. It had occurred to him, however, that the patient might have an early lupus erythematosus, for the scar suggested that type of lesion. A condition that had lasted so long would seem to present more evidence of ulceration than was visible tonight, and there might be some doubt as to its being an epithelioma, but the possibility of lupus erythematosus ought to be definitely excluded, and another presentation of the case was very desirable.

Dr. J. J. Rothwell said he would try to present the patient again.

KAPOSI'S SARCOMA. Presented by Dr. W. B. Trimble.

A white man, aged 64, a Russian, from the New York Skin and Cancer Hospital, showed involvement of both legs with edematous infiltration from the knees down. The left leg was studded with numerous small warty excrescences, small horny plaques, and on the dorsum of the foot (covering considerable surface of the region) purplish discoloration. The condition had lasted six months and was unaccompanied with pain. The Wassermann reaction was negative. The patient was receiving arsenic internally.
DISCUSSION

Dr. P. E. Bechet remarked that almost every case of Kaposi's sarcoma which he had observed, either at the dispensaries or at clinical meetings, occurred among Russian or Polish Jews. He would like to know how this fact could be explained.

Dr. H. Goldenberg, replying to Dr. Bechet, said that most of the cases reported in literature have been observed in Italy. He referred to an article of Dalla Favera in the Archiv für Dermatologie some years ago (1911, Vol. 4). Dalla Favera states that in over one hundred cases reported by Italian authors, not a single case was found in a Jew, a fact which was corroborated by Professor De Amicis, who in 1897 reported fifty cases under his observation.

Dr. Wolf said that he recalled two patients with Kaposi's sarcoma who were natives of Hungary: one was a professional man who had been in this country twelve years, though the disease developed only three years ago. The other patient was an Hungarian woman.

PRURIGO LYMPHATICA. Presented by Dr. L. Charpin.

T. B., a laborer, aged 46, and married, had an affliction of about two years' duration which began on the legs, and within a period of from five to six months spread to the rest of the body. The sites involved were: the posterior aspect of the neck; both sides of the back—the middle of the back being strikingly free—the buttocks, which were markedly involved; both aspects of the legs—where there were a great many lesions; the dorsal surfaces of the feet; the abdomen, on which there were a few isolated patches; the anus, especially on the extensor surfaces; and scattered lesions on the dorsal surfaces of the hands. The scalp, face, palms of the hands and soles of the feet were quite free from eruption. The affection consisted for the most part of closely crowded pinhead to pea sized papules and nodular areas of infiltrations located on a somewhat erythematous and mostly infiltrated skin. Some of the lesions were quite superficial, but the majority were deeply situated. The margin of the eruption, especially on the back, was sharply outlined. A large number of the individual nodules showed a central atrophic area, and in certain areas, as on the elbows, the dermatosis assumed the appearance of a squamous eczema. The general aspect of the eruption was strikingly "prurigo"-like in character. The surface of the skin was dry. There were numerous scattered small pustules (secondary infection).

The mucous membranes showed leukoplakia at the mouth corners, probably the remnant of an old syphilitic condition. The color of the eruption was brownish or reddish-brown, the more recent lesions being red, whereas the older ones were of the various shades of brown. Everywhere on the body there was considerable evidence of scratching. Subjectively there was marked itching, especially on the lower extremities.

The physical examination showed the heart and lungs to be negative, the liver not enlarged, the spleen palpable. There were no glandular masses felt in the abdomen. The lymphatic glands were enlarged, particularly those of the groin, which were quite large and in a chain. A blood Wassermann test was negative. The urine contained a heavy trace of albumin, but no sugar.

Several blood examinations showed an average leukocytosis of 23,000 white cells with a differential count varying little from the following: Polymorpho-
nuclears, 48 per cent.; large lymphocytes, 2 per cent.; small lymphocytes, 9 per cent.; large mononuclears, 4 per cent.; eosinophils, 37 per cent. An occasional myelocyte, neutrophilic and eosinophilic, was observed.

The case was presented as a counterpart of the disease described as prurigo lymphatica, but Dr. Chargin had not had sufficient time to study the patient from the etiologic standpoint. A section of the skin had been taken and studied by Dr. Highman, who would discuss the pathology.

DISCUSSION

Dr. W. J. HIGHMAN said that under the microscope the case presented the characteristics of that group of diseases roughly classified as leukemias of the skin. Infiltrations were seen throughout the corium—chiefly localized about the vessels— and dilated lymphatics. The cells were all alike in contour, shape and character. It was difficult to classify them, but if one could visualize a group of frog's eggs on a small scale it would give a fairly good idea of them. There was a rich cytoplasm. The cells seemed of the lymphatic type and it was inferred that they could originate either from the blood itself or by multiplication in situ, from the endothelia of the lymphatics. It was not an inflammatory condition, but was neoplastic in the widest sense, and unless it was endothelioma it corresponded with leukemia. There were no eosinophils seen in the section, and that was a point on which both mycosis and Hodgkin's disease might be excluded.

Regarded superficially, the disease clinically suggested Duhring's disease, but on closer analysis it was seen not to be that for the lesions were solid nodules or papules, and not blebs. Dr. Lustgarten used to teach that many of these leukemic conditions closely resembled Duhring's disease superficially, but in no other characteristics. If one wished to call it prurigo lymphatica, that would serve very well to conceal ignorance. Microscopically, it belonged in the group in which Dr. Chargin had placed it.

Dr. L. CHARGIN said that bearing on the etiology was the enlarged spleen and enlargement of the lymph glands, especially noticeable in the inguinal region. The patient's general state was quite normal.

Dr. S. POLLITZER added a word on the subject of the name. The condition had already been very well described by Debrevilh of Bordeaux—prurigo lymphadénique, leukemic prurigo.

Dr. H. GOLDENBERG said that the name prurigo lymphatica had been coined to show the resemblance the individual lesions bore to the prurigo of Hebra. It could not be confounded with prurigo Hebra, which begins in early youth and is principally located on the extensor surfaces of the extremities. Prurigo lymphatica was a so-called "lymph-adenide" (Arndt), and was observable in leukemia, pseudoleukemia, lympho-sarcomatosis and mycosis fungoides.

Dr. L. CHARGIN said that the term prurigo lymphatica was not given to conditions that were solely leukemic in nature, but constituted a type of dermatosis observed in the so-called leukemids, which may have leukemia as the underlying cause though a variety of other conditions might also cause it—such as lymphosarcoma, tuberculosis of the lymph glands, or hypertrophic gland conditions observed in malaria. It was the particular form which resembled the prurigo of Hebra to which the term prurigo lymphatica had been given. E. Wagner was the first to describe it under that name.

Dr. B. LAPOWSKI said that rather than call it prurigo lymphatica he would call it plainly leukemia. The lesions developed in spite of the pruritus.
EPITHELIOMA OF THE LIP. Presented by Dr. M. Parrunagian.

Mr. W., aged 56, a peddler by occupation, was born in Austria. According to his statement, the duration of the condition was about four or five weeks. There were two lesions on the vermilion border of the lower lip, on the right side, which bled easily. The edges were slightly pearly. The patient was not a smoker, gave no venereal history, and his Wassermann reaction was negative. There was no glandular involvement.

DISCUSSION

Dr. F. Wise agreed with the diagnosis.

PSORIASIS (PALM, BODY). Presented by Dr. B. Lapowski.

The patient was a man aged 30, a presser by occupation. Both palms, especially the right, showed two large psoriatic patches; the left was less affected. There were also lesions on the body.

ANNULAR PSORIASIS. Presented by Dr. B. Lapowski.

A. S., a messenger, aged 22, had on the body many serpiginous patches of psoriasis. On the tongue also there were two distinct bean-sized red patches, the color of the patches being clearly distinguished from the color of the rest of the tongue. In daylight the papillae of the tongue had a whitish, mother-of-pearl color.

SYPHILIS PALMARIS AND LEUCOPLAKIA OF TONGUE AND CHEEKS. Presented by Dr. B. Lapowski.

L. W., aged 36, a barber, had twenty-two years ago a slight traumatic abrasion on the penis. He was treated at the time in a hospital with rubbings for three weeks. He had had no treatment since. Ten years ago the leukoplakia of the tongue started. Three months ago a palmar syphilid developed, papulo-tubercular. On the right arm were two scars, remnants of previous lesions. The Wassermann reaction was 7/10 ++ + +.

MOLLER'S GLOSSITIS. Presented by Dr. A. Rostenberg.

Mrs. K., aged 58, and the mother of seven healthy children, had been under treatment in Dr. Rosen's service at Mount Sinai Hospital. Her family history had no significance. She had never had any serious sickness and had never suffered from stomach or intestinal trouble with the exception of moderate constipation. The condition for which she was being treated started about two years before, when the patient noticed that while chewing her food she would have a burning pain on her tongue, which was most pronounced when eating spicy food or hot substances, or when taking hot liquids. The condition was always present but was more exaggerated at times. On examination the tongue appeared of normal size. On the left side there was an oval shaped area about an inch in diameter on which the epithelium appeared to be excoriated; the surface was glossy and reddened. There was a complete absence of the filiform papillae. The area was extremely sensitive to the influence of hot and sharp substances. The rest of the tongue seemed normal except for a small irregular area on the right side which appeared to be hypertrophied, was grayish white in color and resembled a patch of leukoplakia. The buccal mucosa and the pharynx were normal. The Wassermann reaction, taken on two different occasions, was negative.
Dr. Rostenberg said that on looking over the literature he was surprised at the scarcity of these cases. The leading American textbooks did not mention them at all. In the Journal of Cutaneous Diseases of 1915 he had found an article by Dr. Harris of Chicago, who described twenty-six cases. The case presented corresponded very well with those described by him.

LUPUS VULGARIS (FOLLICULAR DISSEMINATED TYPE). Presented by Dr. Howard Fox.

This case was previously presented at a meeting of the New York Dermatological Society, Oct. 28, 1919.

Dr. A. J. Gilmour said the condition probably had a fibromatous basis. The lesions were under the skin and the skin was freely movable over the tumor and the tumor was freely movable over the soft parts.

Dr. F. Wise said he had seen the patient on several occasions and felt that a definite diagnosis of such a condition was out of the question without a biopsy.

Dr. S. Pollitzer said there was nothing in the case that suggested syphilis to him. A gummatous infiltration lasting eight years was out of the question; it would have broken down long ago, or if treated, it would have undergone resolution. The large masses were made of small—smaller than pea-sized—hard nodules, the conglomeration of which made up the hard mass under the skin. There seemed little doubt that the case was xanthoma with a secondary amount of secondary fibrosis. It had not the yellow color for the deep pigment of the woman's skin would not permit a yellow color to show through. The history of the case, the appearance of the lesions and their location, all spoke for xanthoma. The xanthoma deposits may occur in the hypoderm as well as in the cutis itself. There seemed little doubt that it was a xanthoma.

Dr. H. Fox thought the most probable diagnosis, when he first saw the case, was xanthoma. The Wassermann test being positive, however, made him feel that a gumma should be considered. The case had been presented previously at another dermatological society where the majority seemed to consider it syphilis. The histologic examination had not been completed. Dr. Fox asked whether Dr. Pollitzer had ever seen a case of xanthoma tuberosum in a negro, and was answered in the negative.

Dr. P. E. Bechet said he had presented a case with a mixture of such lesions four or five years before.

Dr. A. J. Gilmour asked whether the lesions were connected with the skin or whether the skin was freely movable over the tumor. Where the skin seems to be involved it is probably due to secondary inflammation, but most of these lesions have the skin freely movable over the tumor.

Dr. P. E. Bechet replied that the skin was freely movable on the fibroma and over the xanthoma.

FILARIAL ELEPHANTIASIS. Presented by Dr. Louis T. Wright for Dr. Howard Fox.

A. P., a colored woman, aged 34, had a negative family history. She was born in the West Indies and had lived in the United States for twelve years. She had been married for eight years and was the mother of four children, the youngest being 6 weeks old. She had had one miscarriage in 1913. The condition for which she was presented began in 1912, with an attack of chyluria
which persisted for several months and then cleared up, only to reappear the
following year, at which time it persisted for a few months and then dis-
appeared. It had not returned since.

In 1914 the patient was in the Post-Graduate Hospital when nocturnal
examinations of her blood were made and she was told that filaria were found.
In August, 1918, her right leg began to swell, and had remained in this swollen
condition, being much larger than the left. The leg was painless, but she
noticed that the swelling was much greater in the mornings on arising than
at night on going to bed. Otherwise, her health had been normal in every
respect.

She came under observation for the first time, Oct. 22, 1919, at which time
her physical condition was normal but for the enlarged condition of her right
leg. An examination of her blood at 11 p. m. on Oct. 23, 1919, showed several
embryo filariae. The circumference of the right leg as compared with the
left was:

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<tr>
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<th>Right Leg</th>
<th>Left Leg</th>
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<tr>
<td>Ankle</td>
<td>13 1/2</td>
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<td>Calf</td>
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<td>Knee</td>
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<td>Thigh</td>
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These measurements were made Oct. 22, 1919, at which time an eosinophilia
of 8 per cent. was found. About 2 inches above the internal condyle, a nodule
about the size of a large pea (half an inch in diameter) was felt. The nodule
was not tender, but was hard and presumably was one of the points of
obstruction.

Oct. 28, 1919, 0.3 gm. of arsphenamin was administered intravenously.

MORPHEA. Presented by Dr. J. J. Rothwell.

A white woman from the service of Dr. Trimble at the Skin and Cancer
Hospital, aged 39, born in the United States, presented on the right side of
the neck two whitish areas of stiffened skin about one inch by half an inch
in dimension, at the borders of which were very narrow violaceous limits.
The condition was not accompanied by any subjective symptoms and was of
four years' duration. The Wassermann reaction was negative.

The patient had had two or three Kromayer compression treatments and
the lesions—both to the patient and to the observer—were apparently more
supply and soft than they were previous to the treatments.

DISCUSSION

Dr. W. J. Highman asked Dr. Rothwell on what rational grounds the
Kromayer lamp was employed in treating an atrophy, essentially a scarring
process.

PAPULONECROTIC TUBERCULID. Presented by Dr. L. Chargin.

A woman, aged 37, married, presented an eruption, especially marked on the
extensor surfaces of the forearms and legs with numerous scars of former
lesions. The lesions exhibited were in various stages of evolution and involv-
tion, and the active lesions presented were of at least several months' dura-
tion. The onset of the condition occurred more than twenty years ago. The
patient was likewise the subject of a tertiary syphilis, having presented her-
sel three months before with a gumma in the middle of the tongue.
Of interest in connection with the case was the fact that although the woman had had several arsphenamin injections during the past three months, which had completely cleared up the gumma, there had been no effect on the tuberculid. This was mentioned apropos of the recent statement of Stokes who had observed marked improvement in tuberculids following arsphenamin treatment.

Dr. B. Lapowski asked how the diagnosis of papulonecrotic tuberculid was made, and on being told that it was only a clinical diagnosis, replied that he did not see how in a syphilitic case one could make a differential clinical diagnosis and call one lesion a gumma and the other a papulonecrotic syphilid.

Dr. H. Goldenberg asked whether Dr. Lapowski admitted the possibility of a patient's having a gumma and a carcinoma.

Dr. B. Lapowski repeated that he would like to know how one could make a differential diagnosis in the presence of a gumma.

Dr. O. L. A. Levin said he had first seen the patient six months before, at which time she presented an ulcer on the dorsum of the tongue which was deeply excavated and measured 2 by 3 inches. Notwithstanding two negative Wassermann reactions, she was given antisyphilitic treatment and the ulcer began to close in. She was next seen at the Mount Sinai Hospital Dispensary, after she had received several injections of arsphenamin and mercury in the hospital, and the ulcer had diminished in size. At the hospital the Wassermann tests were again negative. He had not seen her for more than three weeks, and tonight for the first time he had seen the ulcer healed. While under his observation, the papulonecrotic tuberculids were not present.

Dr. Howard Fox thought that whether or not the patient had previously suffered from syphilis, the diagnosis of a clean-cut eruption like a papulonecrotic tuberculid could be made on clinical grounds. This eruption was evidently not a nodular syphilid as it was symmetrical and showed no grouping or circinate configuration characteristic of the late syphilids.

Dr. L. Chargin asked Dr. Lapowski, assuming that this was a syphilitic condition, would it not have disappeared under the antisyphilitic treatment which she received as did the gumma.

Dr. B. Lapowski replied that that was the point. It did not disappear under treatment.

Dr. Lane said that the lesions appeared to him to be typical papulonecrotic tuberculids. He did not know of any form of tertiary syphilis resembling them. The gumma had completely healed under antisyphilitic treatment, and these lesions had not been at all influenced. Everything indicated that the diagnosis of papulonecrotic tuberculid in a syphilitic was the correct one.

NEUROFIBROMA. Presented by Dr. J. J. Rothwell.

A white woman, aged 38, born in Russia, from the service of Dr. Trimble at the Skin and Cancer Hospital, presented on the front of the right leg, midway between the ankle and the knee, a dimpled, slightly pigmented (reddish-brown), pea-sized nodule which had been present five years and was both spontaneously painful and painful to pressure. Over the posterior deltoid region of the right arm were two similar nodules, painful only on manipulation. On the left leg there was a similar lesion only one year old. The Wassermann reaction was negative.
DISCUSSION

Dr. W. J. Highman said it was a most interesting case. He did not think, however, that it was a neurofibroma. Tumors of this sort, painful and tender, suggested myoma. Further evidence of the possibility of myoma was the color of the lesions.

Dr. J. J. Rothwell said that if a biopsy were made they would take out all three lesions.

SYPHILIS VERRUCO-TUBERCULOSA. Presented by Dr. B. Lapowski.

Mrs. F. D., a widow, aged 50, had been married for thirty years, had had eight pregnancies, and had two children living. One died when 7 years of age, another two days after birth, and one pregnancy resulted in a stillbirth. She had had three abortions, the last eleven years ago. She gave a suspicious history of syphilis about twenty years ago. She was treated at that time with injections in the buttocks; this treatment was followed by local abscesses. During the past sixteen years lesions had appeared and disappeared on the right buttock leaving net-like scars. On both forearms were scars of previous lesions. The lesions presented on the right buttock were of eight months' duration. The report of the Wassermann test had not been received. The blood sent to the board of health contained "a substance which prevented testing," Dr. Lapowski said that he had presented the case expecting that some would call it tuberculosis verrucosa. The important point was that the scars on the buttocks and elsewhere would make the diagnosis syphilis. He wished to hear the opinion of the other physicians.

Dr. Howard Fox thought the case was probably one of tuberculosis of the skin. He felt that after all it was a waste of time to spend much time in clinical speculation in such a case which might either be syphilis, tuberculosis or blastomycosis. One injection of arsphenamin would settle the question as to whether it was syphilis or tuberculosis, and he asked Dr. Lapowski to give the patient antisyphilitic treatment (using nothing locally) and present her at the next meeting.

Dr. W. Wise thought that all the lesions were tuberculous, and that there was no syphilis manifested in any portion of the diseased area.

Dr. W. J. Highman said that so dogmatic a statement as that made by Dr. Wise was unacceptable. The lesions on the buttocks showed no clinical evidence leading to any conclusion except Dr. Lapowski's. There were no tubercles present. The scar was not that of tuberculosis, nor would there have been seventeen years of intermittent progress in tuberculosis.

Dr. H. Goldenberg said that he agreed with Dr. Lapowski. It certainly looked like a case of syphilis.

Dr. S. Pollitzer agreed with the diagnosis of syphilis as against tuberculosis. The absence of the little miliary abscesses usually found with tuberculosis cutis verrucosa or papillomatosa was against the latter diagnosis. He hoped that Dr. Lapowski would not record it as a case of syphilis tuberculosa verrucosa.

Dr. Howard Fox asked that Dr. Lapowski treat the case with antisyphilitic remedies and present the patient again a month later.

PELLAGRA. Presented by Dr. B. Lapowski.

A girl aged 24, who was born and lived all her life in New York, was first seen five years ago at the Good Samaritan Dispensary, at which time she
presented very much the same appearance seen now, except that she was then more edematous. She showed on the face a butterfly arrangement of an erythema squamosum. On both dorsal aspects of the hands, including the third and second phalanges of the fingers, was a dry erythema. She gave a history of constipation and diarrhea, vomiting, malaise and melancholia. She was thin, emaciated and the skin was thin, dry, and cold. The patches on the face and hands were sharply defined, but not infiltrated. The tongue showed nothing characteristic.

ACRO-ASPHYXIA. Presented by Dr. F. Wise.

Dora D., aged 36, was born in Roumania and had been eighteen years in the United States. She was married and had three living children; she had had also seven miscarriages. The duration of the trouble for which she was presented was five years. The nails on the toes and then on the fingers became curved and brittle. For the past two years her fingers had felt cold with slight pain at the tips—not worse in cold weather. She stated that white spots on the palmar aspects of the fingers appeared in the mornings and disappeared toward evening. There was marked ischemia of some of the fingers and some cyanosis of the distal phalanges. The Wassermann reaction was negative.

Dr. S. Pollitzer said that it suggested a case of sclerodactyilia. He had tried to elicit a history of dead fingers, which is usually found in these cases of acro-asphyxia, but the patient said that she had never had that condition. The tips of the fingers presented the appearance of scleroderma or sclerodactyilia. It was possible that it was the early stage of the latter condition.

ADENOMA SEBACEUM. Presented by Dr. W. B. Trimble.

A 11 year old girl of Russian parentage, from the Skin and Cancer Hospital, was previously presented at the meeting of November, 1918, after five treatments with unfiltered Kromayer compression. The treatments were given at intervals of three or four weeks, regulated by the amount of reaction following the preceding treatment. The mental condition of the girl was apparently not below normal for one of her age. She was presented in order to show the beneficial result of the treatment.

Dr. B. Lapowski referred to a most interesting case described by an Italian in the French Annals of Dermatology of 1914-1915, which corresponded very closely with this one in the mental and clinical symptoms. At necropsy peculiar symptoms were discovered—different ones in the heart and kidney—not a sarcoma. The patient was a young man between 24 and 29 years. It would be interesting to read that report in connection with this case. He then suggested treatment with suprarenal gland extract.

DACTYLITIS SYPHILITICA. Presented by Dr. B. Lapowski.

E. K., aged 3, had been presented before the Section twice previously, the first time in October, 1918. At that time the diagnosis was questioned and tuberculosis was suggested. At the second presentation, several months later, after antispécific treatment (inunctions and potassium) the patient was greatly improved and the diagnosis of syphilis was again questioned and tuberculosis again suggested, owing to the presence of a supposed sinus.

Roentgen-ray photographs of the case were presented, taken before and after treatment, and it was claimed that the original diagnosis was proved by the treatment and the roentgenograms.
CONGENITAL SYPHILIS: LANTERN SLIDE DEMONSTRATION.
Presented by Dr. J. Frank Fraser.

Dr. Fraser demonstrated the gross and microscopic appearances in the skin and internal organs of a child which had died of congenital syphilis a few moments after birth. Spirochaetae pallidiae were demonstrated in the meninges, but repeated examinations for the presence of the parasites in the other organs gave negative results. As the postmortem examination was not made until thirty-six hours after death, it was suggested that the organisms may have been destroyed by autolysis. The Wassermann reaction in the mother was positive and the question of the transmission of the disease appeared to be solely placental.*

DISCUSSION

Dr. S. Pollitzer said that the subject was too large to discuss in all its phases, but he wished to refer to one or two points; first, to the disappearance of the spirochetes within an hour and a half after death, or birth if the child was born dead. He was greatly surprised to hear that statement. It seemed extraordinary because in that very short space of time the body ordinarily had not even time to cool noticeably and practically no postmortem changes were appreciable. It therefore seemed very surprising to find that an autolytic process should have proceeded so rapidly as to destroy spirochetes. It was the more surprising because cases with liver, lungs and other organs simply loaded with spirochetes were often shown, and so far as he could recall there had been no mention of the fact that the tissues had been examined immediately after death. He did not question the assertion made by Dr. Fraser, but he wished to express his surprise that in the extraordinarily short space of time an autolytic process should have proceeded to the extent of destroying the spirochetes. The subject ought to be investigated further from that point of view.

As to the appearance of the first lesions in the syphilitic infant, the difference of opinion on that point—that in some cases they are bullous and in others macular or papular—was readily understood if we bear in mind the fact that we are dealing with a disease that undergoes progressive changes and the lesions present at a given moment depend on the time at which the inspection took place. If infection occurred shortly before birth, no lesions at all might be found; the time might be too short for their development; they would appear later. It should not be forgotten that syphilis in the fetus is the same disease as in the acquired form, with the single difference that the infection is primarily hematogenous. The first lesions that we get are like those of an acquired syphilis after the syphilis has become generalized; the first lesions are those of secondary syphilis; if the child is born with the earliest cutaneous lesions of the disease, they will be macular; if infection took place a

*A full report of this case will appear in an early issue of the Archives.
few weeks earlier, the lesions will no longer be macular but will have undergone the changes we find in acquired syphilis—some will be macular and some will be papular or bullous. That seemed to explain the differences among authors as to which lesions come first. If the child is infected by a tertiary syphilitic mother, it may be born without any apparent signs of the disease, or it may develop them later in life—in some cases after thirty or forty years.

The only theory that has been proposed to explain the remarkable facts of syphilis congenita tarda is that these infants have gone through their secondary stage either in utero or in the first few weeks after birth and, becoming tertiary syphilitics, develop their lesions at remote periods after infection. No one has seriously considered this an adequate explanation. Several years ago the speaker offered an explanation* of the occurrence of tardy syphilis and also of the remarkable vagaries that have been observed in the incidence of congenital syphilis in a given family—for instance, the fact that one child may be a syphilitic and others healthy or that only one of a pair of twins may be syphilitic. The woman in an active stage of syphilis, with her blood swarming with spirochetes, will necessarily infect the fetus by way of the placenta and give birth to a dead fetus or a living syphilitic child with active lesions of the disease. The woman in the tertiary stage of syphilis only occasionally has a few spirochetes in her blood stream and it is a matter of chance whether or not some of these find their way into the uterine arteries; whence it follows that the tertiary syphilitic may bear healthy and syphilitic children alternately, as a matter of chance, and that one twin alone may be infected. Secondly, when the spirochetes of the tertiary syphilitic mother pass through into the blood of the fetus they do not find a virgin soil in which to flourish. The blood and tissues of the fetus partake of the blood and tissues of the mother; the fetus ab ovo has the qualities of a tertiary syphilitic, and spirochetes entering the circulation of such a fetus do not produce the lesions of a fresh syphilis but those of tertiary syphilis which may be delayed—as we know in acquired syphilis—for many years.

With regard to the mode of transmission, the speaker expressed the opinion that syphilographers generally were entirely in accord with what Dr. Fraser had said. He did not believe that paternal syphilis exists.

Dr. W. J. Highman said that the members of the Section were indebted to Dr. Fraser for his very comprehensive view of congenital syphilis. Very little remained to be said after Dr. Pollitzer's remarks; he had exactly presented every idea the speaker had ever entertained on the subject. The entire matter of congenital syphilis would be much simplified if persons would only realize that the infected placenta was an anatomic chancre. As soon as that fundamental truth was grasped, the truth of what Dr. Pollitzer had said was patent. There was no difference between congenital and acquired syphilis except that the former was acquired in utero, and the individual thus runs through a great variety of manifestations which may or may not be expressed after birth.

Dr. C. M. Williams questioned the point raised by Dr. Pollitzer on the appearance of congenital syphilis in the children of mothers in the tertiary stage. If it were true, as suggested by Dr. Pollitzer, that the tissues of children born of a mother while suffering from tertiary syphilis would show the same reaction to syphilitic infection as those of any tertiary syphilitic, then it followed that all such children, if they showed any syphilis at all, should

In the absence of any clinical manifestations in the mother, she was considered free from syphilis (Finger), until Matzenauer undertook to examine ten cases on which Finger's statement was based and showed that the examination was not complete, as in nearly all the cases of mothers giving birth to syphilitic children some clinical manifestations were present. Since then the opinion—even before the Wassermann reaction—has been that every mother giving birth to a syphilitic child was suffering from syphilis. The Wassermann reaction tended to support this view.

Dr. L. Chargin referring to Dr. Pollitzer's remarks, inquired how he would explain an active secondary syphilis (macular eruption, mucous patches, etc.) in a child that was the offspring of a mother in the tertiary stage of syphilis.

Dr. S. Pollitzer replied that the fact that the mother presented no symptoms and gave a positive Wassermann reaction was not a proof that she was in the tertiary stage. The only absolute proof of tertiary syphilis was the presence of tertiary lesions. He did not know that a woman with tertiary lesions could give birth to a child with lesions of secondary syphilis; he doubted it. In this connection, it should be remembered that the lesions of the secondary and tertiary periods often overlapped.

Dr. L. Chargin said he had a family under observation bearing on this point. The father had become infected with syphilis about eleven years previously. Soon after infection he received one course (about twenty) of rubbings in Finger's Clinic in Vienna, and about a year later, because of recurrence, six to eight insoluble mercury injections. Two years later he married. During the first year of his married life, his wife gave birth to a premature child which was stillborn. The second pregnancy, one year later, resulted in what appeared to be a healthy child; the third child, born less than three years ago, was brought to the clinic when an infant with active secondary syphilitic manifestations (mucous patches, papular eruption). It seemed reasonable to assume that the mother became infected during her first year of married life and accordingly had had the infection some five years at the time she gave birth to this child. If Dr. Pollitzer's theory were correct, one should not expect to find secondary syphilis in this child, yet the infant showed unmistakable evidence of an early syphilis.

Dr. S. Pollitzer said the facts as presented were insufficient to permit the basing of an opinion. The occurrence of a stillborn child or a miscarriage a year or two after marriage was certainly not proof of syphilis. On the other hand, it had happened in the history of the human race that a woman was infected with syphilis even ten years after her marriage!

Dr. F. Fraser said his remarks in regard to the destruction of the organisms by an autolytic process were simply a reflection of the views of pathologists of wide experience in conducting postmortem examinations in these cases. He did not himself have any views on the question and was unable to explain why in some cases the spirochete could be readily demonstrated and in others they could not.
NEVUS LATERALIS, HYPERKERATOTIC TYPE. Presented by Dr. E. W. Abramowitz.

Leon R., aged 4, born in the United States, was brought to Dr. Fordyce's clinic by his mother who said that she had noticed the lesion on the boy's nose for the last four months. On the left side of the nose, extending from the bridge to the tip, forming an S-shaped line about a half inch wide, were hyperkeratotic scales arranged in linear continuity.

LUPUS VULGARIS. Presented by Dr. M. Scheer.

The patient, C. H., was a woman from Dr. Fordyce's clinic, 54 years of age and married, whose occupation was housework. The peculiarities of the affection in this case were the time of onset of the disease and its distribution. The disease began four years ago and presented the bat-wing distribution so common in lupus erythematosus. The lesions consisted of erythematous and slightly scaly patches and nodules located on both cheeks, nose and upper lip. The histologic examination revealed the condition to be typical lupus vulgaris.

GUMMA OF TONGUE AND EPITHELIOMA. Presented by Dr. B. Lapowsk.

Mr. A. F., aged 48, a canvasser, in 1889 had an ulcer penis with secondary manifestations, and was treated by the late Dr. Allen in the Good Samaritan Dispensary with intramuscular injections and internally for about two years, up to 1901. He then had no treatment until 1911 (twelve years after infection), when he returned to the Good Samaritan Dispensary with gumma of the posterior pharyngeal wall. He received one arsphenamin injection and then disappeared from observation. Eight years later (Nov. 7, 1919, twenty years after infection) he reappeared presenting manifestations of the tongue of fourteen months' duration. Before that date he had received four intravenous arsphenamin injections and one intramuscular mercurial injection. After Nov. 7, 1919, he received three more intravenous neo-arsphenamin injections on November 7, 10 and 28. The blood serum reaction on November 11 was negative.

Diagnosis: Gumma of the tongue and epithelioma (?); left border and body of tongue; tip of tongue, especially left side (epithelioma?).


A colored male infant, aged 4, from Dr. Fordyce's clinic, had an eruption that had been present for three weeks. The lesions were located on the buttocks and were most numerous around the anus. They consisted of papules varying in size from one-sixteenth to one-quarter inch. The papules were quite dry; only a few were slightly eroded. There was no erythema. There were no other manifestations of syphilis. The child appeared well nourished and in good health. A Wassermann test was made, but the report had not been received.

The mother had three other living children. She had had no miscarriages, and stated that a Wassermann test made at the Sloane Maternity Hospital was negative.
DISCUSSION

Dr. O. L. Levin said that the presence of the tubercles, which showed a tendency to arrange themselves in circles and segments of circles, suggested syphilis. The eruption was limited to a small area and was not so widespread as Jacquet’s erythema usually is—which at times may reach up to the neck or down to the heels. Besides, there was an absence of the erythema and moisture which accompanied the latter condition. In his opinion, it was a case of congenital syphilis.

Dr. W. J. Highman said he had seen the case for the first time that afternoon and he considered syphilis and Jacquet’s disease. The eruption was sufficiently characteristic of the latter not to rule it out. Against the diagnosis of syphilis, was the history of the mother and the child’s health, and the fact that there were no other signs of syphilis. Jacquet’s disease was described by Parrot as closely simulating syphilis. At present no one could do more than make a tentative diagnosis. The lack of moisture was as strongly against syphilis as Jacquet’s disease. So far as the extensiveness was concerned, the case answered all of Jacquet’s requirements. The number of papules was against Jacquet’s disease. It was not possible to make a differential diagnosis clinically, but in his opinion it was a case of Jacquet’s disease rather than syphilis.

Dr. S. Pollitzer saw nothing in the case that suggested Jacquet’s disease, which was an erythema with secondary accessory lesions. There was no erythema in this case. There were a number of papules well covered with epidermis on an apparently normal skin. That did not correspond with the érythème syphiloide post erosive of Sevestre and Jacquet. As to its being syphilis, it would be very astonishing to find a child of four months developing a group of syphilitic papules that looked as healthy as this one. An untreated syphilitic infant would show other signs—the nutrition would suffer and there would be other evidences of severe systemic disease. While it was true that the lesions did suggest syphilis rather than the erythema of Jacquet’s disease, it would be surprising to have the child proved to be syphilitic. The diagnosis of syphilis would have to wait for a Wassermann test or the demonstration of spirochetes on the lesions.

Dr. W. J. Highman said that he had seen the case in daylight, and while he agreed with Dr. Pollitzer that in an individual of such complexion an erythema was difficult to detect, yet a certain amount of moisture could be observed in the lesions. About one tenth of the lesions were eroded.

Dr. S. Pollitzer replied that it was not a question of eroded papules, but of the erythema. Jacquet’s disease was an erythema in the first place, and secondarily had eroded papules.

ICHTHYOSIS VULGARIS AND VON RECKLINGHAUSEN’S DISEASE. Presented by Dr. E. W. Abramowitz.

Angelo C., aged 9, of Italian parentage, was brought to Dr. Fordyce’s clinic with a marked scaling and dryness of the skin of the entire body, with the exception of the face and flexures of the body. A younger brother had the disease in a milder form; the other members of the family were free from the disease. Brown pigmentation and small tumors were noted in Angelo, who seemed undernourished and mentally backward.
MULTIPLE BENIGN CYSTIC EPITHELIOMA. Presented by Dr. G. M. MacKee.

Matthew Z., aged 34, an Austrian, who had been in the United States thirty-three years, a painter, presented himself at Dr. Fordyce's clinic with an erythematous and vesicular eruption on the lower part of the abdomen, extending down to the knees (dermatitis venenata). Incidentally, there were noted on the lower eyelids and over the chest, especially around the nipples, numerous fawn-colored raised papules varying in size from pinhead lesions to larger ones. The patient had not noticed these lesions. Biopsy confirmed the diagnosis.

CASE FOR DIAGNOSIS. Presented by Dr. F. Wise.

The patient was a man, aged 21, seen in private practice. His sister died of tuberculosis, his father of asthma, and his mother of pneumonia. He had diphtheria and measles when a child.

About two weeks before, small red papules appeared on the back of his neck. These grew larger and gradually discharged pus. About a year and a half ago, small red papules appeared on the scrotal sac, which gradually grew larger. They were not painful, but discharged pus and failed to heal. At times they would cease discharging, and then would reopen. Gradually the scrotal sac grew much thickened and greatly enlarged, but at no time did the testicles appear to be swollen. The penis was greatly swollen and edematous. About a year ago a small lump appeared on the lower end of the tibiae, which increased in size. They were painless and not inflamed. Six months ago a rectal abscess appeared in the ischiorectal region. This was opened and had not stopped draining.

A general examination of the skin and scrotum revealed numerous pinhead to pea-sized abscesses. The Wassermann test was negative. *Staphylococcus aureus* grew in pure cultures from the pus. The von Pirquet test was negative. Examination for tubercle bacilli proved negative.

The patient had been treated with various salves, with incisions and autogenous vaccines, but without benefit.

DISCUSSION

Dr. G. M. MacKee suggested that the history might throw some light on the subject. As he understood it, the patient some time ago had some boils or abscesses around the genitals, one of which was incised and treated surgically, and about the same time he developed an edema of the scrotum which became so intense that a surgical operation was performed to relieve it. There was no question of the involvement of the testicles. The operation was not successful in that it did not heal by first intention and there had been sinuses ever since. It would seem now to be a streptococcic or staphylococcic infection.

SYphilis Tuberculo-Verrucosa. Presented by Dr. B. Lapowski.

Mrs. D. F., was presented at the meeting on November 5 as a case of syphilis tuberculo verrucosa. It was suggested then that in order to prove the diagnosis of syphilis the patient be treated only internally antispecifically, without any local applications. She received three intramuscular injections of calomel on November 6, 15 and 22. No local applications were made. The blood serum reaction was tested twice and in both instances the laboratory report was "Substance in the blood which prevents testing." (B. of H.)

Since the last presentation the lesions had diminished greatly, being flattened, less pronounced, and smaller in size. Dr. Lapowski said that in his
opinion this improvement under treated supported his diagnosis of syphilis. The patient could not submit to more energetic treatment as she had to work for her living. The two reports of the board of health as to the condition of the blood claimed the increase of a foreign substance which interfered with the reaction.

**DISCUSSION**

Dr. F. Wise said that the evidence pointed to the assumption that Dr. Lapowski was right in his diagnosis, if one could judge by the therapeutic test. It would be more desirable, however, if the diagnosis were fortified by a positive Wassermann test and a microscopic specimen of the affected tissues. It was not impossible that the calomel injections favorably influenced a cutaneous tuberculosis.

Dr. S. Pollitzer asked whether arsphenamin or mercury was given, and on being told that it was calomel, he stated that he was one of those who had agreed with the diagnosis of syphilis but it was well known that calomel improves tuberculous lesions of the skin. The condition presented tonight still left the question a little undecided, so far as the proof from treatment was concerned. Arsenphenamin would have no effect on a tuberculous lesion.

Dr. W. J. Highman said that he also had agreed with Dr. Lapowski's diagnosis, and the interval of a month had not changed his opinion. The evidence which Dr. Lapowski had brought to bear on the case in the last four weeks more than corroborated the diagnosis. He was sure that if mercurial treatment could beneficially influence tuberculosis cutis it would do so as rapidly as in syphilis. So far as it had gone, the therapeutic test was of great value.

Dr. O. L. Levin said that he had seen a case on the service of Dr. Gottheil at the City Hospital, showing large areas of tubercles and ulcerations of the thighs, buttocks and perineum which improved under injections of mercury. The biopsy did not aid in differentiating between tuberculosis and syphilis and the Wassermann reaction was negative. Subsequent observation proved the condition to be tuberculous.

Dr. B. Lapowski said he would present the case again after calomel treatment, and would try to submit a blood test also. He felt confident that the patient would not show any lesions.

**ERYTHEMA SOLARE PERSTANS? LUPUS ERYTHEMATOUS DISSEMINATUS?** Presented by Dr. L. Chargin.

H. H., a young woman, aged 18, single, had had the affection for five months. They followed immediately on exposure to the sun in the course of a sea bath. The affection was limited to the parts exposed in bathing—involving the entire face except an area underneath the lower lip; the ears, the sides, front and back of neck, except the upper part in front where the sun's rays were obstructed by the chin; the upper chest, front and back, down to where the bathing suit covered the chest; the outer upper arms and outer forearms, with a few isolated small areas on the backs of both hands and fingers. The eruption on the face was uniformly red and slightly edematous. The redness on the chest and arms was not quite so marked. There was some scaling and the skin was quite dry. The patient stated that an occasional crop of blisters appeared on the face—there had been perhaps three or four such attacks in the last five months. No atrophy was to be observed on any of the affected areas. On the forearms and hands were areas of telangectasia. There were few, if any, subjective
or constitutional symptoms. The patient stated that on several occasions she was sunburned which invariably resulted in blister formation but no permanent redness. She was otherwise quite well. Suggestions as to treatment were requested.

DISCUSSION

Dr. G. M. MacKee regarded the case as one of lupus erythematosus disseminatus. It was not unusual to have an exacerbation or a remission of lupus erythematosus following prolonged exposure to sunlight. The diagnosis of lupus was based on the delicate telangiectasia and fine adherent scales. The absence of atrophy did not negative the diagnosis. In regard to treatment, these superficial types of lupus erythematosus not infrequently disappeared under the application of such simple remedies as lotio alba.

Dr. S. Pollitzer said the case impressed him as being the persisting effects of erythema solare, and not lupus erythematosus. Certain skins were peculiarly susceptible to sunlight and reacted to it in an extraordinary manner. He had seen a case of severe erythema lasting for a number of months following a moderate exposure to the ultra-violet light. The young woman told him that she had been in bathing at the seashore, and that in previous years she would blister easily; that was the history usually given in those cases that are very sensitive to the ultra-violet rays or to sunlight. There might be a moderate reaction from one exposure and a greater from another, and a severe reaction from a third. Some skins do not become "tanned" or pigmented after exposure, but on the contrary seem to develop a greater sensitiveness to light. The fact that these lesions occurred just where the patient was exposed, and nowhere else, made solar erythema the obvious diagnosis. As to treatment, the patient should never expose herself to the direct sunlight, and should wear a brown veil to keep off the sun; at night she should use a thin paste containing ichthyl.

Dr. F. Wise said it was a surprise to him to hear Dr. Pollitzer say that the eruption was not lupus erythematosus, since it so closely resembled a case that he had sent to the doctor's office recently in consultation. This girl had lesions on the palms, and she could not very well become sunburned on the palms. In his opinion, there was no doubt that it was a case of lupus erythematosus disseminatus. As to treatment, he advised the use of wet dressings, as suggested by Dr. Pollitzer in the case of the patient just referred to.

Dr. W. J. Chargin said he understood lupus erythematosus disseminatus to be a disease which developed, as a rule, in small sized patches, more or less disseminated and with a tendency to central atrophy or depression—the eruption coming and going and being frequently accompanied by constitutional symptoms, none of which was shown by this patient. The condition in this young girl seemed to be akin to a roentgen-ray dermatitis, which perhaps would explain the telangiectasia presented on the forearms and hands.

PIGMENTATION WITH ATROPHODERMA ON THE RIGHT THIGH.

Presented by Dr. G. M. MACKEE.

Stella G., aged 21, a candymaker, presented herself at Dr. Fordyce's clinic stating that she had noticed a change in the appearance of her skin for the past eight years. There was a general displacement of the skin pigment, leaving areas of depigmentation, the size of a five-cent piece and larger, among larger hyperpigmented patches. In some places the appearance of a livido reticulata was to be thought of. The veins were easily visible, in spite of no
change in the thickness of the skin. The pigmentation was most marked in the axillae and on the abdomen. There were atrophic areas on the back and on the rest of the trunk, but they were all small. The thighs showed the same displacement of pigment. There was a mild keratosis pilaris. The patient gave a history of frequent nosebleed during childhood. There was a patch of atrophoderma on the inner side of the right thigh, about 2 inches in diameter.

**DISCUSSION**

**Dr. O. L. Levin** said the case impressed him as the most interesting one presented during the evening. There were some patches of atrophy on the thighs and back, which might be a coincidence. The prominent vessels seemed to be simply dilated vessels on the surface of the skin. There seemed to be no atrophy of the skin over the vessels. Besides the pigmentation and dilated vessels, there was a purplish-red discoloration of the skin of the hands and fingers, a loss of the outer third of the eyebrows, a pulse rate of less than 60, and a prominent soft thyroid which might be cystic. The whole picture was that of faulty oxygenation, nutrition and metabolism, with a poor cardiovascular tone. All the skin lesions seemed to be cutaneous manifestations of faulty function of the glands of internal secretion.

**Dr. C. M. Williams** said that below the elbow was a patch of atrophic skin in which the veins were very prominent, then a patch of normal skin, and then another patch of atrophic skin with prominent veins. He could not conceive of any interference with circulation central or peripheral, causing such an alternation of prominent and concealed veins.

**Dr. F. Wise** expressed the opinion that Dr. Levin had given the correct interpretation of the patient's symptoms, although he failed to offer a diagnosis. It certainly was an atrophoderma, whether due to a thyroid disturbance or not he could not say.

**Dr. O. L. Levin** said he had not meant to convey the impression that the prominent vessels were a result of mechanical interference. They were prominent merely because of a dilatation and fulness resulting from a poor tone of the circulation.

**ERYTHEMA PERSTANS.** Presented by Dr. A. J. Gilmour.

The patient, J. L., was a white unmarried woman, aged 17, a machine operator, born in the United States. One year ago a swelling appeared on the back of the first phalanx and the little finger of the left hand; at first this would entirely disappear and then reappear. During the first four months a redness and swelling was permanently present. At times there had been exacerbation, an erythematous wheal-like swelling appearing. Other lesions appeared four months ago which have persisted. One started as a papule on the back of the left hand; this lesion gradually spread, forming a ring which increased to a diameter of 2 inches. Another papule made its appearance on the upper outer side of the right arm, 1 inch below the shoulder, and extended transversely across the arm 3 inches. This wheal-like lesion was ¼ inch in width and was raised above the surface ¼ inch. This linear lesion had a concavity downward. A second ring, 1¼ inches in diameter, was situated on the anterior surface of the right arm, a little above the bend of the elbow. A small transverse lesion stretched across the arm just below this ring. These lesions were white and wheal-like on the outer circumference of the ring, changing to a red color on the inner surface of the ring. The inner circum-
ference of the ring presented the appearance of the broken down vesicles seen in ringworm of the body. Except for a slight anemia, the patient's health was apparently good. The only symptom complained of was a slight itching.

**DISCUSSION**

Dr. G. M. MacKee said it was well, in cases of erythema perstans, especially when localized, to exclude the possibility of dermatitis medicamentosa; also lupus erythematosus.

Dr. I. M. Brenner asked if there was any systemic condition in the patient — any cardiac condition. He had noticed a peculiar clubbing of the fingers, looking almost like the cardiac type, and had wondered if there was any connection between the two conditions.

Dr. W. J. Chargin reported on the case of syphilitic reinfection presented at the October meeting. The patient had showed a negative Wassermann at the time of presentation; this became +++ during the following week, and was further confirmed by a +++ a week later. He had since been under active treatment, and was now clinically and serologically negative.

Dr. S. Pollitzer said it was worth while to recall Dr. Chargin's case. The patient had acquired syphilis three years ago, had received active treatment and had a negative Wassermann reaction. Three years later, about two weeks after exposure, he presented a lesion on the penis that looked like a chancre and showed spirochetes on examination. At that time, his Wassermann reaction, repeated several times, was negative. A few weeks later he developed a cutaneous eruption scattered over the trunk, and the Wassermann test taken at that time, just before the case was presented last month, had not been reported on. The speaker predicted that it would be positive, and we hear tonight that it was positive. It was difficult to see what more could be asked in the way of proof of a syphilitic reinfection. The case reported by Dr. Rosen was not so clear cut because the patient came back with lesions that might have been a recurrence of the old syphilis.

**MANHATTAN DERMATOLOGICAL SOCIETY**

*Regular Meeting, Nov. 11, 1919*

**Paul E. Bechet, M.D., Chairman**

**PAPULO-NECROTIC TUBERCULID.** Presented by Dr. I. Rosen.

Mrs. S., aged 27, was born in Russia. Her family history was negative for tuberculosis. Both parents were living; she also had two brothers and three sisters, all of them well. The condition for which she was presented began about five years ago with an eruption on the fingers. At first she noticed small, isolated lesions which on first appearance were red; then they became raised and infiltrated, acquiring a greenish head which would dry up. Removal of the crust would reveal a scar. After a time the forearms were affected with similar lesions, taking the same course.

On examination, the patient presented a typical papulonecrotic eruption on the forearms and hands. The lesions were in all stages of development, some showing the pustules with central necrosis, others covered with crusts. Scattered over the entire surface of the forearms and hands were superficial scars.
EXTENSIVE LUPUS ERYTHEMATOSUS SHOWING RESULT OF REPEATED APPLICATIONS OF 95 PER CENT. PHENOL SOLUTION. Presented by Dr. P. E. BECHET.

J. O., a private patient, aged 45, stated that the eruption began twenty years before. When he was first seen on April 8, 1919, he presented an enormously hypertrophied, severe and extensive type of lupus erythematosus. The disease covered the entire face, the ears and the side of the neck. The only part of the face free from the eruption was the forehead; there was not the slightest trace of healthy skin on any other part of the face. Scaling was very extensive, the scales being markedly adherent. The case was as severe a type as the presenter had seen. The patient was so disfigured that it was impossible for him to retain a position. He had had ten paintings on either side of the face with 95 per cent. phenol, the acid being rubbed in thoroughly by means of a small toothpick swab once every two weeks and allowed to dry without neutralization. He had also had applications of lotio alba, and iodoform pills internally. The acid was not applied to the neck. As could be seen, the disease had markedly improved. The scales had disappeared, the remaining lesions were very superficial, there were a number of entirely healed areas of healthy skin scattered over both cheeks, and the cosmetic result seemed excellent for the scarring was so slight as to be scarcely noticeable. The disease was of course still active, but the presenter considered that the rapid improvement following the applications of phenol warranted him in showing the case. He had made use of phenol in other dermatoses in which a mildly destructive agent was indicated, with uniformly good results. Its value in dermatologic practice was not sufficiently realized.

ERYTHEMA PERSTANS. Presented by Dr. A. J. GILMOUR.

The patient was a young white girl, an operator. A year before she noticed a red swelling on the little finger of the left hand; it began as a spot and became a ring.

DISCUSSION

Dr. F. Wise said that the lesions were about the same as those in a case a description of which he had published not long ago, only they were more pronounced and pigmented in the former patient. The consistency of the lesions, their color and configuration closely conformed to the class of diseases known as erythema figuratum perstans.

Dr. Howard Fox recalled a similar though much more extensive case presented by Dr. Robinson, in which the lesions persisted for at least eight months.

Dr. G. M. MacKee said that in all cases of erythema perstans it would be a good idea to interrogate the patient carefully, to ascertain whether the eruption might represent a dermatitis medicamentosa.

Dr. I. Rosen said that the case did not coincide with his idea of erythema perstans. While there might be raised or infiltrated erythematous lesions in erythema perstans, they all left pigmentation in the process of evolution. He saw no evidence of pigmentation in this case.

Dr. G. M. MacKee said there was no precedent for Dr. Rosen's objection to the use of the word erythema. There was a large number of diseases whose generic name was erythema, in which the erythema was but one objective symptom. He expressed appreciation of the reason for, and the value of, Dr. Rosen's remarks, but after all, names were simply a means of designation and
identification, and if they were constantly altered we would be in perpetual chaos. In erythema toxicum and erythema scarlatiniforme there was erythema only. In erythema multiforme there might be erythema, edema, vesiculation and bullous formation; in erythema nodosum there were nodules; in erythema induratum there were ulcers. Erythema elevatum diutinum was considered by many to be similar, if not identical with, granuloma annulare.

Dr. A. J. Gilmour said that Wende described cases of erythema figurans induratum; they might come under that class, only there were three types—semicircular, striate lesions, and rings. He had noticed that the top of the ring on the hand of this patient was more whitish red, while the lower part had turned bluish.

MILIIUM WITH CALCAREOUS DEGENERATION. Presented by Dr. A. J. Gilmour.

A girl, aged 19, a stenographer, and unmarried, who was under treatment for acne, had noticed two months ago a white spot on the back of the right hand. This spot was gradually growing larger. Dr. Gilmour said he would report on the case at the next meeting.

PITYRIASIS LICHENOIDES CHRONICA. Presented by Dr. F. Wise.

A married woman, aged 48, from Dr. Fordyce's clinic, an Austrian by birth, presented a rash which was characteristic of secondary syphilis in point of clinical appearance, but no concomitant lesions of syphilis were found. She had had four negative Wassermann reactions. She exhibited a maculopapular eruption which had been diagnosticated as pityriasis lichenoides chronica. The patient applied for treatment of acute eczema of the legs, of recent appearance, and seemed to be entirely unaware of the eruption on the trunk. The duration of the lesions on the trunk was unknown.

DISCUSSION

Dr. G. M. MacKee found it difficult to accept a diagnosis of pityriasis lichenoides chronica. In this disease the papules were permanent, or at least they endured for many years, and they suggested the papules of lichen planus. The disease was slowly progressive, and there were no subjective symptoms. As far as could be ascertained in the present case, the eruption was rather rapid in development, was inflammatory in type, the papules were situated in the follicular orifices, and there was itching. There was also some perifollicular dermatitis and the eruption was most marked on the lower trunk, the buttocks and thighs. These were not the sites of predilection for para-psoriasis lichenoides. Furthermore, while it was difficult to obtain a confirmatory history from the patient, the eruption appeared to be composed of lesions that were evolving and those that were undergoing involution—in other words, a recurrent eruption. In addition, there were the remains of a chronic eczema of the legs, which the patient stated had been exudative.

The speaker suggested the diagnosis of a follicular dermatitis secondary to an exudative dermatitis of the legs—a dermatitis or eczema of the type called by Engman and by Fordyce, infectious eczematoid dermatitis.

Dr. P. E. Bechet said that the lesions on the leg resembled pityriasis much more than did those on the trunk.
ULERYTHEMA OPHYROGENES. Presented by Dr. I. Rosen.

Mrs. G., a married woman, aged 58, born in Russia, had seven living children. The family history was negative in regard to any similar condition. The patient gave an indifferent history as to the time of onset; in fact she did not seek treatment or advice for the lesions on the eyebrows.

Both eyebrows were affected, showing an erythematous base, noninflammatory in character and interspersed with telangiectatic blood vessels. There was a distinct loss of the hairs of the eyebrows due to atrophic areas which were probably caused by a preceding folliculitis. The patient complained of no subjective symptoms.

DISCUSSION

Dr. G. M. MacKee remarked that it seemed to be the end stage of the eruption. The folliculitis and hyperkeratosis had disappeared to a large extent, leaving an erythema and atrophy. The term ulerythema signified erythema and scarring.

CASE FOR DIAGNOSIS (RINGWORM?). Presented by Dr. O. L. Levin.

A. Z., a schoolgirl, aged 15, was born in Russia and had been in this country for five years. She applied for treatment on the service of Dr. Whitehouse at the Post-Graduate Clinic. She complained of an itchy, scaly condition which was of one year’s duration. On examination, the scalp showed a thick layer of dirty white scales on an inflammatory base. The hairs were not diseased and there were no areas of alopecia. Extending down the forehead from the hairline to the eyebrows was a dark red eruption, not elevated and slightly scaly. The inferior border was distinctly elevated, about one-sixteenth inch wide, papular in character and festooned. This extended posteriorly over the temporal regions, the neck and mastoid regions. On the neck and behind the auricles were circinate lesions resembling in general appearance the eruption on the forehead. Scales removed from the forehead showed the presence of sporelike bodies.

DISCUSSION

Dr. G. M. MacKee said that if Dr. Levin had found numerous spores and if the microscopic picture were typical, we were viewing an unusual and interesting example of ringworm of the skin. On the other hand, from a clinical point of view, the eruption impressed the speaker as representing the circinate type of seborrheic dermatitis. There was a striated pityriasis of the scalp, loss of hair, and the skin eruption appeared to be intimately associated with that of the scalp. The speaker called attention to the fact that spores could frequently be demonstrated in the scabs from various eruptions, the spores being accidental contaminations, nonpathogenic or perhaps fat droplets. Unless the microscopic picture was typical, the speaker would hesitate to accept a diagnosis of tenia circinata.

Dr. O. L. Levin said that when he presented the case he distinctly stated that the specimens from the lesions had shown sporelike bodies. He refused to make a positive finding of spores in any specimen of scales, crusts, or hairs unless the suspected bodies were very numerous and mycelia were present. However, he would try the fungi in Sabouraud’s medium.

When the patient was first seen the day before he had regarded the case one of seborrheic eczema, but after closer examination he favored the diag-
nosis of ringworm on account of the festooned border, the dry scales, and the circinate lesions. Ringworm of the scalp was rare in persons after puberty, but might not this patient represent a type of eruption which may appear during that period in which the scalp is acquiring an immunity against the ringworm fungus?

**DISCUSSION**

Dr. Howard Fox said that the age of the patient was strongly against the diagnosis of tinea. It was well known that tinea of the scalp was extremely rare in a person who had reached the age of puberty. He had heard the late Dr. Jackson remark that he had seen only one such case during his life.

**LICHEN SCROFULOSORUM.** Presented by Dr. Howard Fox.

James D., a negro, aged 32, born in the United States, a tailor, whose father died of "throat trouble," one brother of consumption, and whose mother and two sisters were living and in fair health, did not remember having suffered from any children's diseases. He stated that he "took cold easily and seemed never to get rid of it." He suffered from night sweats and had lost 6 pounds in the last ten months. He complained of being very nervous. The eruption first appeared five years before, the lesions gradually making their appearance. New lesions, he said, appeared every summer, some of them disappearing in winter. He stated that the lesions caused a little itching in the summer.

Examination showed an eruption on the chest of about 200 small, pinhead sized, rounded, firm, noninflammatory discrete papules. There was no evidence of scratching and no appreciable scaling. The color was yellowish-brown, of a darker shade than the normal skin. The patient appeared to be a full-blooded negro of brownish color. The eruption was confined to the chest, the lesions forming a large semicircle with the convexity upward. The center of the chest was free. An examination for tuberculosis made by Dr. Moak of the Harlem Hospital showed the following result: "Bronchovesicular breathing at right apex; exaggerated vocal fremitus of same side. Temperature, 99; pulse, 94. Eight pounds below normal weight. Sputum negative." 

The report of a biopsy had not been received.

**DISCUSSION**

Dr. F. Wise said that the lesions of lichen scrofulosorum were generally arranged crescentically. They were usually composed of scaly papules and showed more erythema or inflammation than did the ones presented in Dr. Fox's case. He did not consider this a case of lichen scrofulosorum, although he could offer no better diagnosis.

Dr. G. M. MacKee thought that a diagnosis of lichen scrofulosorum might well be considered. The eruption was chronic, it consisted of tiny follicular papules, and occurred in a tuberculous subject. He was unable, however, to make a clinical diagnosis and hoped that the tissue could be examined microscopically.

Dr. I. Rosen said he had seen a few cases of lichen scrofulosorum, but could not consider that diagnosis in this instance. Lichen scrofulosorum was more generalized, the eruption usually occurring in groups, the individual lesions being smaller, yellowish-red, capped with a delicate scale which on removal disclosed a superficial scar.
Dr. F. J. Ochs said there was a distinct tendency to grouping in this case. Groups were found in the axillae, over the right nipple, and directly in the center of the chest there was more of a tendency to grouping than in any other place. He agreed with the diagnosis. As to the color of the lesions, they were more brown than red. The color scheme in a colored person was easily recognized, if one forgot the color. Each of the papules had a distinct brownish halo with a tendency to grouping, but at the moment there was no tendency to scaling. In lichen scrofulosorum it was not necessary for scaling to appear in the early stage of the disease; that might or might not come later. The patient stated that he had had the condition for five years, but his history was very indefinite. New lesions were appearing at the top of the sternum, and they were in groups. He accepted the diagnosis, but would await the biopsy report.

Dr. P. E. Bechet agreed with Dr. F. Wise. A point against the diagnosis was the localization of the lesions—they were confined entirely to the chest, a favorite location for acneiform lesions; they were of a uniform development and resembled atypical milia. It appeared to him that there was a sebaceous element in the causation of the lesions. He had seen only one case of lichen scrofulosorum, and in that patient the lesions were located on either side of the abdomen and were in various stages of evolution and involution. The child had a generalized tuberculosis and was very cachectic. The patient shown by Dr. Fox seemed to be in good health.

Dr. Howard Fox thought that the uniformity in the type of the lesions was rather in favor of than against the diagnosis of lichen scrofulosorum. He was sure that if Dr. Wise had seen the case by daylight, as he had; Dr. Wise would admit that there was no evidence whatever of any inflammatory action. The lesions were indolent and had persisted for years. The speaker was aware that the lesions were usually found on the sides of the trunk, but did not think this ruled out the possibility of lichen scrofulosorum. He felt that a rare condition was being discussed from extremely limited clinical experience. While not uncommon in Europe, this disease appeared to be extremely rare in the United States. As soon as the histologic examination was made the diagnosis would probably be settled.

DERMATITIS MEDICAMENTOSA. Presented by Dr. I. Rosen.

Mr. R., aged 25, consulted the Mount Sinai Dermatological Clinic for an eruption on his chest and abdomen, the eruption having been present for three days. Examination revealed a grouped vesicopapular eruption involving the front of the entire chest and entire abdomen. Some of the lesions were hemorrhagic. This eruption made its appearance suddenly and did not spread to other parts of the body after its initial appearance. The only symptom complained of was slight itching. On being questioned, the patient stated that he had been constipated and had taken two phenolphthalein tablets two days prior to the appearance of the skin eruption.

DISCUSSION

Several of the members agreed that it was a pityriasis rosea.

Dr. Howard Fox was inclined to agree with the other members that the case was one of pityriasis rosea. He had had one well marked case of an
eruption following the ingestion of Ex-lax. The eruption in this case appeared as well defined, sharply demarcated erythematous plaques which after disappearing left brownish pigmentation, which lasted for months.

Dr. I. Rosen said he could not blame some of the members for making a diagnosis of pityriasis rosea at the time of presentation, because some of the lesions might resemble that disease on account of the application of ointment. However, the diagnosis of dermatitis medicamentosa would not be doubted if the case had been seen at its onset. The sudden outbreak of the small vesicopapular lesions, involving the chest and abdomen, the absence of the yellowish-red, scaly lesions that are so characteristic of pityriasis rosea, the limitation of the eruption to the site of its first appearance without any tendency to spread to the other parts of the body, would rule out pityriasis rosea.

**DISCUSSION**

Dr. B. J. Ochs said the patient stated that the first eruption came out directly in the center of the abdomen. Eruptions then appeared on the back and later on other sites.

**CASE FOR DIAGNOSIS.** Presented by Dr. P. E. Bechet.

A male, aged 63, from Dr. Trimble’s clinic, stated that he had first noticed the lesions three years before. He presented for inspection two plaques, one over the left buttock and the other in the left lumbar region. Both lesions were approximately from 3.5 to 4 mm. in area, were markedly infiltrated and indurated, presented sharply defined borders, and were bright red. The edges of the one on the buttock seemed to be sharply rolled up. There was an absence of ulceration, scaling, and atrophy. A biopsy had been made and a section casually examined by Dr. J. F. Fraser, who stated to the presenter that the specimen required further study, but was, in his opinion, neither tuberculous nor epitheliomatous. The slide was submitted for inspection.

**DISCUSSION**

Dr. H. Fox said that clinically it looked like a case of psoriasis.

Dr. F. Wise thought it was psoriasis.

Dr. O. L. Levin stated that he had seen the section from a lesion and the microscopic picture suggested psoriasis, parapsoriasis or pityriasis rosea. The presence of the broad acanthotic pegs, all reaching down to about the same level, led him to decide in favor of psoriasis. On seeing the lesions on the patient’s trunk—thickened, blood red, and covered with a thick layer of white scales—he believed that the microscopic appearance confirmed the clinical diagnosis of psoriasis.

Dr. L. B. Mount thought both clinically and microscopically it had been proved to be psoriasis.

Dr. A. J. Gilmour said there was a suggestion of psoriasis on the man’s knees, but he had stated that in his work he was on his knees considerably.

Dr. P. E. Bechet agreed with the diagnosis of psoriasis because of the histologic appearance of the section, but it seemed to him that clinically the case did not resemble psoriasis. The lesions had been present for three years, there was no scaling, the lesion over the buttock had apparently a rolled up edge and in appearance was not unlike the flat, morphea-like epitheliomas.
Dr. G. M. MacKee agreed with Dr. Levin. Histologically, the case was psoriasis. Throughout most of the section there was an acanthosis with anastomoses of the rete pegs forming the solid plate so often seen in the inveterate type of the disease. One end of the section showed the typical elongated papillae of early psoriasis, also a Monroe abscess. In addition to these patches there was a parakeratosis and a mild inflammatory reaction in the upper derma. Epithelioma could be definitely ruled out.

Clinically also the eruption resembled psoriasis. The lesions were sharply marginated and covered with dry scabs. The fact that two lesions had existed for years was not unique, as individual lesions of psoriasis had been observed on localized areas, such as the penis, hands, etc., for months and years before the eruption appeared on other parts of the body. In addition to the lesions on the abdomen, the speaker called attention to the eruption in the crural region—indefinately outlined erythema with waxy scales—which might be either psoriasis or seborrhieic dermatitis.

MULTIPLE BENIGN CYSTIC EPITHELIOMA AND SYRINGOMA. Presented by Dr. F. Wise.

A young man, who had appeared on the day of presentation at the Vanderbilt clinic for the first time, presented many small lesions on the chest—flat papular lesions, some the color of the skin and some darker, averaging one-eighth inch in diameter. Some of those on the face, neck and chest had been there since childhood. There were a few lesions on the abdomen. On the cheeks, beneath the eyes, there were many millet-seed sized papules. A biopsy had been made on one of the chest papules, revealing the typical structure of syringoma.

DISCUSSION

Drs. G. M. MacKee and H. Fox agreed with the diagnosis.

MULTIPLE VERRUCAE. Presented by Dr. L. Oulmann.

A Porto Rican mulatto, aged 36, presented on his legs and on the dorsa of his feet numerous cauliflower-like pigmented, warty excrescences, while on the plantae of the feet horny, circumscribed lesions had developed which were less pigmented, shiny and contained fissures. These horny masses varied in size from that of a dime to that of a 50-cent piece, and the lesions were raised in nut shape, according to size. On the dorsum of the feet were numerous cauliflower lesions consisting of bunches of cutaneous horn-like growths which were hard, almost black at the ends and from one-quarter to one-half inch in length. The masses were also present on the legs—though more sparingly—on both the extensor and flexor sides. There was one small lesion on the left thigh, consisting of three to four branches. The lesions on the lower extremities had existed for twelve years, while on the upper extremities and from under the nails smaller lesions in moderate amount had developed during the last ten years. The warts seemed to be of a keratotic nature and to form a hard callus on the soles owing to the pressure, which prevented the condyloma acuminatum-like expansion. Dr. Oulmann said he had seen the patient for the first time on the previous day and hoped to be able to follow up the case, and to have moulages, a biopsy, and photographs made of it.

DISCUSSION

Dr. G. M. MacKee said there were several conditions that might be associated with extensive warty lesions. Very thick, warty lesions were seen occasionally in Darier’s disease, but in this instance there were no other evi-
ences of keratosis follicularis. Keratoderma palmare et plantaris and the mal de maleda might at least be considered. In this connection, both the verrucose nevus and ichthyosis hystrix at times presented keratotic lesions of enormous thickness. A bilateral and even symmetrical distribution would not necessarily rule out the possibility of nevus. The tropical disease, verruca peruana, might be considered if the patient had been in a warm climate. The speaker also mentioned keratoderma blennorrhagica as a possible diagnosis.

Dr. F. Wise said that he would diagnose the case as warts.

Dr. Howard Fox thought that lichen planus should also be considered in the list of diseases in which verrucose lesions appeared. In this very unusual case there were a number of papules on the dorsum of the foot which were suggestive of lichen planus.

Dr. P. E. Bechet did not think it was Darier's disease. The scalp and body were free from eruptions. There was no hyperkeratosis of the palms and soles. There were typical verrucae beneath the nails of several fingers and on the palms. He was at a loss for a diagnosis.

Dr. O. L. Levin said that the hyperkeratosis apparently began on the feet whence it spread to the other parts. The condition suggested some infectious agent as the cause, and that the lesions under the nails depended on the inoculation of the skin during scratching. He did not approve calling the lesions papillomatous because there was apparently only an increased growth of the cells of the stratum corneum and not an overgrowth of the papillary bodies.

MINNESOTA DERMATOLOGICAL SOCIETY

Regular Meeting, Dec. 9, 1919

S. E. Sweitzer, M.D., President

GRANULOMA PYOGENICUM OF THE LIP. Presented by Dr. S. E. Sweitzer.

A man, aged 57, presented, on the lower lip, a small elevated lesion the size of a split pea, that was rapidly disappearing under mild treatment.

PITYRIASIS LICHENOIDES CHRONICA. Presented by Dr. H. E. Michelson.

A young lady, aged 25, acquired syphilis three years ago. During the past eighteen months she has received thorough treatment. About six months ago the present macular, slightly scaling eruption appeared over the trunk. The patient does not complain of itching. Some of the lesions are follicular and show a resemblance to lichen planus.

DISCUSSION

Dr. G. M. Olson called attention to the fact that this patient belonged especially to the group of parapsoriasis known as pityriasis lichenoides chronica, as there is a marked resemblance to pityriasis rosea and lichen planus.
EXTENSIVE BLASTOMYCOSIS OF THE ARM. Presented by Dr. J. Butler, Jr.

A man, aged 55, was first seen by Dr. Butler about two years ago. At that time the blastomycosis was limited to the back of the left hand. He improved and finally discontinued further treatment. At the time of presentation he showed large ulcers on the hand and a large circular ulcer on the left forearm.

DISCUSSION

Dr. F. R. Wright advised amputation of the forearm above the ulcer, as even though the ulcers were healed, the scarring resulting from the healing and contraction of the large circular ulcer would render the hand and forearm useless.

PSORIASIS AND LEUKOPLAKIA. Presented by Dr. H. G. Irvine.

J. M., aged 55, married, and having eight healthy children, had suffered from psoriasis in the form of scaly lesions on the arms and legs for the past seventeen years. At the time of presentation he showed marked lesions of leukoplaakia. Formerly he had been a heavy smoker, but practically stopped smoking several months ago. History of syphilis was negative as were two Wassermann tests. The patient was presented to show the possible association of psoriasis and leukoplaakia.

DISCUSSION

Most of the members thought the association of psoriasis and leukoplaakia was a coincidence although they noted the rare presence of psoriasis of the mouth.

THRUSH. Presented by Dr. G. M. Olson.

A girl, aged 5, had previously suffered from an extensive impetigo contagiosa which had healed. The lesions on the labial commissures, mouth pouches and tongue had been treated as perleche, with poor to indifferent success. Microscopic examination had shown the presence of many fine mycelia and spores, and alkaline treatment had resulted in marked improvement.

EXTRAGENITAL CHANCRE OF MUCOUS MEMBRANE OF CHEEK. Presented by Dr. G. M. Olson.

A man, aged 29, denied exposure, either through sexual intercourse or kissing, for the past eight months. Previous to that time he stated that he had not infrequently been exposed to venereal disease. During the past eight months he had been at work in the lumber camps. Infection probably resulted from the drinking cup or eating utensils.

SYPHILITIC ERUPTION RESEMBLING HERPES. Presented by Dr. H. E. Michelson.

The papular and pustular eruption of syphilids in this man, aged 33, along the course of the fifth intercostal nerve showed a marked resemblance to herpes zoster.
PIGMENTED MOLE. Presented by Dr. J. M. Armstrong.

A young lady, aged 19, had a large pigmented mole on the side of the right ala nasi. The mole was elevated about an eighth of an inch, and contained many fine gray hairs. The patient was presented to show the excellent result following the use of carbon dioxide snow. Two applications of four minutes each were sufficient to cause entire disappearance of the mole, with beautiful cosmetic results.

ACROMEGALY. Presented by Dr. J. M. Armstrong.

A man, aged 43, noted the first symptoms in 1896. They consisted of enlargement of the hands and feet and changed facial expression and outline. The skin of the face and head was thickened and hypertrophied, although not rough. Deep furrows occurred over the frontal region, and there was an enormous thickening of the upper and lower eyelids. The nails showed longitudinal striation.

LEPROSY. Report of case by Dr. J. M. Armstrong.

A man, aged 53, a carpenter, born in Sweden, first noticed the eruption of leprosy twenty years ago, five years after he arrived in this country. The lepra bacillus was found in the lesions. He had taken very large doses of chaulmoogra oil and strychnin, apparently with benefit, as all lesions had disappeared, with the exception of enlargement of the ulnar nerves and thinning of the eyebrows.
Index to Current Literature

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CULTURAL STUDIES ON AN INFECTION OF THE SKIN BY ENDOMYCES ALBICANS

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Infections by organisms other than the bacteria are by no means uncommon. In many cases, however, no careful study has been made of the infecting agent, and consequently the details of the infection remain unknown. This article is a report of an investigation of a fungus that caused a series of lesions on the index finger of a woman. While this paper is concerned only with the organism which was repeatedly isolated from the discharge, the following anamnnesis, which was prepared through the kindness of Dr. A. J. Ochsner, is presented as it may be of some interest.

REPORT OF CASE

*History.*—Three years ago (February, 1916) the patient first noticed a small pinhead sized grayish-white lesion on the skin of her left index finger just lateral to the root of the finger nail over the distal phalanx. This minute lesion slowly and painlessly enlarged to a diameter of from 5 to 10 mm., and then discharged a yellow matter. At no time was the lesion painful. Within a few weeks other similar miliary abscesses formed on the same finger, always painless and rapidly festering, discharging a purulent material. These lesions followed each other in rapid succession and in crops—at one time the distal phalanx was practically covered by a coalescing mass of the minute miliary abscesses. After attempting to treat the finger herself with little success, she consulted a physician. Hot B. & A. dressings were applied with little benefit and the small lesions recurred quite regularly. Yellow mercuric oxid ointment and incision of the finger together with roentgen-ray treatment effected a disappearance of all lesions for a period of one year. In April, 1919, the small abscesses reappeared. At this time a culture was taken from the pus from one of the lesions and blastomycetes (yeasts) were grown in pure culture on several different occasions. The patient had never noticed any similar lesions elsewhere on her body. She had no other complaint and her general health was excellent.

MICROSCOPIC EXAMINATION OF DISCHARGE

*Technic.*—The material was taken from the lesions after the surrounding area had been washed and sterilized. An incision was then made into the lesion and the discharge collected on a sterile swab.
This was taken to the laboratory and plated out according to the usual procedures. Glucose agar plates and slants were used for growing the organism. The growth on this medium was white, slimy and quite luxurious, and seemed to differ very little from the growth secured with ordinary yeasts. The fungus grew readily between 18 C. and 38 C. Growth occurred, however, at temperatures below 18 C., but the extent was somewhat in proportion to the temperature.

Form and Size of Cells.—The vegetative cells of this fungus are round, sometimes slightly ovoid, with a granular interior. Some of the cells show the presence of vacuoles and fat globules. Young cells on glucose agar slants are quite regular in size and shape. The size varies between 3.5 and 6.5 microns. The cells from scums are quite different from those taken from glucose agar slants. There is a marked tendency to mycelial structures together with the formation of yeast-like cells (Fig. 1). The cells taken from the sediment at the bottom of culture tubes show a greater number of mycelial threads, although this does not seem to be a constant characteristic. Judging from our cultures there seems to be a great adaptability for the changing of one structure into another. The yeast forms seem to be more common in liquid mediums, while on solid mediums there is a greater tendency to form mycelial threads. The yeast-like structures from glucose agar slants all show the presence of an opaque body. This is about one-thirtieth the size of the entire cell. In the larger cells, especially those which are tending to form mycelial threads, a double wall is visible. There seems to be a marked tendency for the cells to remain attached after having separated by budding.

Numerous observations failed to show the presence of ascospores. The gypsum block was used in an attempt to produce their formation. Although spore formation could not be demonstrated by the usual methods, we are not convinced that this fungus does not form spores.

Growth.—On glucose agar plates, this fungus forms round, slimy, white colonies at room temperature. In old cultures, there was a slight tendency to form a yellowish growth, but this was not constant. There
was no difficulty in getting growth on any of the laboratory mediums, but it was more extensive and appeared most quickly in the presence of glucose.

Giant colonies develop rapidly on glucose agar at 37 C. A white, luxurious growth with raised, wrinkled interiors and flat edges is obtained (Fig. 3). Extending from the raised center are a number of canals or striations which end in one of the spaces between the lobes of the edge.

The development in litmus milk is not rapid. Eventually, the casein, which coagulates without the formation of acid, is slowly digested. This would seem to indicate the presence of a rennin. The change in milk hardly ever appeared before fifteen days at room temperature.

![Fig. 2.—Cells from scum of three month old broth cultures.](image)

Gelatin was completely liquefied, showing the presence of an active protease. Nitrates were not reduced.

Fermentation of Sugars.—The fungus is characterized by the absence of gas formation in all of the carbohydrates used as substrates, excepting glucose. On account of the investigations of Mudge¹ (1917) and Hasseltine² (1917), who have shown that sterilization of the higher carbohydrates in the broth is accompanied by hydrolysis to the monosaccharids, the carbohydrates were added to Durham fermentation tubes after they had been sterilized. Subsequent incubation before inoculation was resorted to in order to prove sterility. The inoculated

tubes in duplicate were left at room temperature in the dark for forty-two days, after which there were no evidences whatever of gas formation, with the exception of glucose. All tubes, however, showed the presence of a sediment which, with certain sugars, was quite heavy. The terminal reaction of the cultures was determined, but was not significant. The tubes were exactly neutral to phenolsulphonephthalein at the beginning. Fermentation experiments were carried out on the following carbohydrates: glucose, lactose, sucrose, dextrin, dulcite, adonite, galactose, inulin, mannite, levulose, raffinose, maltose, starch and melizitose.

Fig. 3.—Giant colony of Endomyces albicans isolated from the lesions.

The action of this fungus on the glucose in fermentation tubes was interesting. Most of the time there was no formation of gas, especially if the tubes were left at room temperature. Culture tubes of this medium showed no gas even after two months at room temperature. At 37 degrees, however, there occurred very slow, sluggish formation of gas after a week. Sucrose was not inverted nor fermented. In most of the fermentation tubes, the yeast grew as a heavy deposit in the tube.

The organism was slightly pathogenic to guinea-pigs. Injections were made subcutaneously, and after two or three days a swelling developed which finally discharged a little and then healed. The results, however, were not fatal.
Affinity.—A study of the literature indicates that the fungus responsible for this infection has all of the characteristics of *Endomyces albicans*. This yeast is discussed by Guilliermond in his little volume, “Les Levures.” *Endomyces albicans* has been characterized by other authors and given other names. Robin, who discovered it, called it *Oidium albicans*, and Audry, *Saccharomyces albicans*, considering it as a typical yeast. Vuillemin\(^3\) studied it carefully and classed it as an endomycete. He was able to show the presence in old cultures of resistant units much like chlamydospores. He was also able to show the presence of sacs in old cultures on beets. However, other authors have been unable to find a variety which form spores.

Some have tried to explain this difference in morphology on the basis of the existence of several varieties of *Endomyces albicans*. This idea is somewhat borne out by several investigations.

Beauverie and Lesieur\(^4\) isolated a variety of this fungus which fermented lactose and formed no ascospores. Castellani\(^5\) analyzed the publications of many authors, and showed that the species *Monilia albicans* is made up of many different varieties. According to Guilliermond, *Endomyces albicans* ferments glucose very feebly. This fact, together with the cultural and morphologic characteristics, indicates with little doubt that this infection was caused by that organism.

**SUMMARY AND CONCLUSIONS**

This fungus seems to be identical with *Endomyces albicans*. The value of microscopic examinations in lesions such as that described in this article is indicated by this study, since in the beginning they looked much like those caused by staphylococci.\(^6\)

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6. In addition to the references given, the following articles may be of interest: Ricketts, H. T.: Oidiomycosis (Blastomycosis) of the Skin and Its Fungi. J. Med. Res. 6:380, 1901; Rajat, H.: Le Champignon du Muguet. Thesis for the Doctorate in Medicine, Lyon quoted from Guilliermond.
VIII.—A PECULIAR FUNGUS INFECTION OF THE SKIN (SOORPILZE?)*

MARTIN F. ENGMAN, M.D.
ST. LOUIS

The patient, E. W., entered the Barnard Hospital on May 7, 1914, complaining of a pruritic condition of the vulva. She was a negress, aged 46, fairly well nourished, and found to be clinically healthy except for a + + + + + Wassermann reaction and the skin condition from which she suffered.

She stated that the disease began on "an irritated spot" on the inner side of each thigh, about December, 1913, and that these spots increased in dimension until they occupied the areas at present involved.

On examination, about the upper part of the thighs, sweeping out from each side of the vulva, extending farther on the right than on the left, was a sharply defined, scaly area, the exact location of which can be seen in Figure 1. The condition looked exactly like that of a tinea inguinalis or that produced by *Epidermophyton inguinale*. One could not have differentiated this infection from one produced by either of the above named organisms. Underneath each breast was a similar area, sharply defined, slightly raised, and more of a purplish inflammatory hue than that seen on the thighs (Fig. 2). The edges of these lesions were undermined and finely papular at the border, while the furfuraceous scaly center seemed to be depressed below the surface of the normal skin.

There was some pruritus, particularly around the vulva, but not marked. The process was very rebellious to treatment, and so was the patient. She made several short sojourns in the hospital without her condition being benefited to any marked degree.

Preparations made with potassium hydroxid in the usual manner for looking for such organisms, disclosed a peculiar fungus, the drawings (Fig. 3) of which were made by Dr. Amin Boutros, who was house physician of the hospital at that time. Cultures were also made, the photographs of which are submitted (Fig. 4).

As no classification could be made of the fungus, we sent the smears and cultures to Prof. George Moore of the Missouri Botanical Gardens, who kindly examined them and sent us the following report:

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*Studies, reports and observations from the Dermatological Departments of the Barnard Free Skin and Cancer Hospital and the School of Medicine, Washington University, St. Louis, Mo., U. S. A., Service of Drs. M. F. Engman and W. H. Mook.*
Fig. 1.—Lesions on the thighs. Note the definite border.

Fig. 2.—Lesions under the breasts; the same banded border is present here.
Fig. 3.—The organisms as seen in a potassium hydroxid preparation under the microscope.
Fig. 4.—Photograph of the cultures made on nutrient agar.
"The fungus which you turned over to me about a year ago belongs to the general group known as the Hyphomycetes, or fungi imperfecti. This group is a sort of botanical wastebasket for those forms of which the life history is not completely known, and consequently it is not very well defined. The plant undoubtedly belongs to the order Moniliales and resembles to some extent both Monilia and Oidium. There is the strongest probability, however, of its belonging to the genus Botrytis, but I was never able to obtain satisfactory material from the cultures to definitely settle this point. As to the relation of your organism to other known pathogenic fungi, it comes closest to the well known 'Soorpilze' of thrush, which has received some ten or a dozen different names and the precise systematic position of which has never been satisfactorily worked out."

Thorough search and study revealed no Trichophyton.

The case is reported merely as one of interest from the peculiar fungus which seemed to be the etiologic factor.
NECROPSY FINDINGS IN A CASE OF CONGENITAL SCLERODERMA AND SCLERODACTYLIA *

FRED D. WEIDMAN, M.D.

PHILADELPHIA

Today there are two diseases which the dermatologist thinks of as producing a hardening of the skin in very young infants or in the new-born; these, edema neonatorum and sclerema neonatorum, are so uniformly and routinely described in all the text-books that they at once come to the mind of every dermatologist when any abnormal cutaneous firmness appears at birth or in early infancy. This is true in spite of their rarity, particularly in the case of sclerema neonatorum, which the case herewith presented most closely resembles, and which is so uncommon that the occurrence even of clinical cases is still held to afford sufficient ground for report in the literature. In reviewing the literature of the last five years, I have found only fourteen such case reports.

The unusual title given it and the usefulness of this case depend almost entirely on the fact that a necropsy was performed, and that the subsequent microscopic examination revealed certain features which did not correspond to those published of either of these two diseases. This led to a search of the relevant literature and further study, with the result that I found another writer, Lieberthal, who believes that there is such a condition as scleroderma to be found in the newborn, and another, Cockayne, who found it in an infant 7 months old. It is to support this idea and to indicate still further that scleroderma may be found (rarely) among infants as well as adults, and also to place on record what I believe to be valuable necropsy findings that this communication is offered.

RELATIONSHIP OF CUTANEOUS INDURATIONS

It might conduce to clearness if at the outset certain points relating to the above three indurating cutaneous diseases be noted briefly:

The first, edema neonatorum, is a disease which our case in no way resembled; at one time it was confounded with the real sclerema neonatorum, but later was placed in its proper separate position when it was recognized that fibrous tissue was not the important factor in the induration, but rather an infiltration of fluid. The second, sclerema

*From the Laboratory of Dermatological Research, University of Pennsylvania.
or scleroderma neonatorum, cannot be so summarily dismissed, and its present status must be indicated before proceeding to the features of the case herewith reported. In this disease, a thick, inelastic skin is found on the extremities of a pallid new-born baby, generally associated with a bloody diarrhea and subnormal temperature. The disease appears shortly after birth, spreads over the calves, back and buttocks, may become general, and usually results fatally.³

With regard to the morbid anatomic phase of sclerema neonatorum, we find very few records of necropsy or microscopic examinations, and

![Fig. 1.—Subacute spinal leptomeningitis. Emerging nerve trunk at N T, cellular infiltrate at the dark granular masses R C I.](image)

when such examinations have been made we find that still fewer opinions have been expressed as to the application such findings might have in establishing the etiology of the disease and enabling us to derive therefrom a useful classification. This is at first sight surprising in view of the fatal nature of the disease, which ought to furnish a goodly proportion of necropsies; but on further thought it is easily explained when it is recalled that the disease is rare, not commonly recognized outside of the specialty, and that there is, unfortunately, a tendency

³. So considered usually. Of the last ten patients whose cases I have reviewed in the literature, seven recovered and three died.
in general practice to pass over a number of different congenital diseases as marasmus or syphilis, as though they were all one and the same thing—hopeless therapeutically, and not deserving of special study.

The morbid findings in sclerema neonatorum are discussed among others most thoroughly and sensibly in a recent article by Paterson, who has reviewed the literature up to 1915, and from whose article I abstract briefly:

Grossly there are no constant visceral lesions, those present being considered as complications or sequelae, and having no causal relationship to the disease. The skin, according to Parrott, is thin, showing essentially an atrophy and consolidation with atrophy of the subcutaneous fat. Ballantyne says that the skin cuts like bacon rind, and that the subcutaneous tissue, unlike the normal yellow, is white and glistening.

Paterson tries to harmonize the two by regarding Parrott’s description as applying to an early stage, and Ballantyne’s to a later, at which fibrosis has supervened on the atrophy. Microscopically, the skin in sclerema is notably thinned, the reduction coming about as a result of

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“compression” and obscuration of rete cells and atrophy of the corium. The fat lobules of the subcutaneous tissue are small and separated by excess fibrous tissue. The only illustration I could find was a poor woodcut in Ballantyne’s book.5

The third indurative disease considered, scleroderma, or sclerema adultorum, almost always occurs in youths or adults, the youngest recorded case, according to Crocker,6 being that of a child, thirteen months old.7 Of its two forms, the diffuse symmetric and the circumscribed, the former is the only one to be considered in the case I report by reason of its diffuseness and symmetry. In this form almost any part of the body may be affected; its extent has almost no limitations; the skin surface is sometimes smooth, sometimes rough and variously of normal color, pallid or pigmented, depending on the age of the process.

Histologically, there are no essential changes in the epidermis, such as are described in sclerema neonatorum; there is a hyperplasia of collagen in the corium, but no constant fibrosis of subjacent fat and muscle.

After comparing these three diseases (particularly with respect to the morbid histology), I come to the conclusion that my case, in spite of the tender age of the subject, is one of scleroderma and not sclerema neonatorum, and that from this circumstance our age conception of the disease scleroderma adultorum or sclerema adultorum must be broadened to include also infants and the new-born. On the other hand, the disease which we now know as sclerema neonatorum, and whose etymology would make it of the same nature as sclerema adultorum, must at present be distinguished, pathologically, from the latter; at least until there is further proof of identical etiology. As Lieberthal suggests, it would really be better—less confusing—to drop the terms sclerema adultorum and scleroderma adultorum and call the disease simply scleroderma; this is another reason for adopting the name recommended in the provisional nomenclature of the American Dermatological Association.

5. Ballantyne, J. W.: Diseases of the Fetus, Edinburgh, Oliver & Boyd, 1893, p. 176, Figure 1.
7. Lewin and Heller: (Die Sclerodermie, eine monographische Studie, Berlin, August Hirschwald, 1895) report as youngest cases one (No. 424) at fourteen days, and another (No. 143) at three weeks. The former, however, was reported in 1758 at a time when edema and sclerema neonatorum were not distinguished from scleroderma and therefore may not be valid cases of scleroderma.
I have already referred to Dr. W. S. Paterson's paper on sclerema neonatorum, and just as this article goes to press I received several photomicrographs from him from Glasgow picturing both sclerematous skin from his necropsy case and normal controls. He was unable to send me the original histologic sections. Under the reading glass the sclerematous skin sections appear almost precisely like those from adult sclerodermic cases which Dr. M. B. Hartzell prepared in Vienna, and furthermore, they do not show the condensation or atrophy which are considered as part of the histology of sclerema as originally described. In this conclusion Dr. Hartzell, who has also seen the prints, also agrees.

In most of Dr. Paterson's photographs the epidermis shows nothing abnormal, while in others which are marked "pemphigoid portion," all of the cells, including the rete, appear to be in a state of hydropic degeneration. I cannot make out any of the condensation which has been described by Parrott.

The most striking, and practically the only, constant feature in the photographs is an extreme condensation of the collagen bundles in
the corium. It can be distinctly made out in all the photographs submitted that the latter are dense and hyaline, that the lymphatics between them are extremely narrow or nil and that there is a little multiplication of collagenous spindle cells. The corium as a whole is fully 50 per cent. thicker than the normal, as shown by the photograph of normal skin taken at the same magnification, which Dr. Paterson has also kindly sent. There is absolutely no extension of the fibrous overgrowth into subcutaneous parts such as was seen in my case.

As far as the photographs will allow judgment, this case of Dr. Paterson's is histopathologically identical with scleroderma of adults. Dr. Paterson's case appears to be in no way different from the commonly described ones of this disease in adults, except that it occurred in an infant, whereas my case was the unusual variety of the same which has been described by Marie, Thibierge and Westphal.

From these circumstances I feel certain that Dr. Paterson's necropsy case at least is, like mine, one of scleroderma and not sclerema, and if I am right in this, the next step in advance will lead to the conclusion that there are doubtless numbers of other cases of sclerema which are also anatomically sclerodermas; and that, after all, scleroderma may prove to be much commoner in infants than at present supposed. Data on previously published cases are insufficient to determine surely this point, as it depends on histologic examination of the diseased skin and at the same time comparison with normal baby skin with whose histology many workers are not familiar, and to which they have not access. Dr. Paterson has been an exception to this class.

The basis for all this confusion probably lies in the fact that sclerema is a group disease etiologically, and that different observers have been forcibly harmonizing their cases with the already described variety, and that the morbid anatomy must be expected to vary in different cases even where they are of the same causation. Tentatively, therefore — until a valid classification arrive — we should not from the pathologic side, insist on a rigid histologic agreement in every case, nor, on the other hand, err, clinically, by placing the disease precisely here or there solely on the basis of age or other single circumstance. That is, the findings should be reported, and the relationship to previously described cases discussed, but it is too much at present to claim that every case of such cutaneous induration will either fall into edema or sclerema neonatorum on the one hand, or into scleroderma on the other. It is with this understanding and qualification that I have anatomically entitled this case scleroderma. As every physician will recognize, this recommendation is no more than is accepted for many other and better known diseases.
REPORT OF CASE

History.—The child, a negro, was born on the eve of the departure of a resident, and its earlier history was neglected. I regret that these notes are not as full as the case merits. It weighed 6 pounds and 1 ounce at birth; it was breast fed, its temperature ran between 98 and 98.3. When 3 days old its temperature rose to 100 F. The infant showed “spasticity” of all extremities, an erythematous eruption over the sides of the chest and back, and it had a bloody diarrhea. Information as to the time of onset, sequence and duration of these symptoms are now unobtainable. When about 7 days old, it was seen by Dr. M. B. Hartzell, who reserved diagnosis, but thought that the cutaneous

![Fig. 4.—Fibrosis, calcification and obliteration of artery in pancreas; atrophic acini at A.](image)

disease was not syphilis. At that time the neck was rigid, and the skin hard and immovable over the flexures of all the extremities. There was no alteration of color, texture, or other surface characteristics of the indurated parts of the skin. There were no stigmas of syphilis, such as rhagades and blebs. On the day the infant died it weighed 4 pounds 6 ounces, and at necropsy 4 pounds; having lost 2 pounds and 1 ounce in the fifteen days of its life.

DIAGNOSIS

The diagnosis in this case depends partly on the clinical features, but more on the morbid anatomic—essentially microscopic—findings. The disease occurred immediately after birth, was associated with a
bloody diarrhea and ended fatally; thus, if the diagnosis rest on the clinical features only, there are strong reasons for thinking that this was a case of sclerema neonatorum; that is, if all dermatoses showing this complex were included in the disease sclerema neonatorum, this case would be classified under that name. The only clinical feature, in fact, against the diagnosis of sclerema is the symmetry of the involvement. But Parrott and Ballantyne long ago gave us certain morbid anatomic features in addition, which serve to confine the disease within narrower limits: these now loom up importantly in the possible differential diagnosis of sclerema neonatorum from this case of congenital scleroderma. These differential histologic features consist in the absence of change of any kind in the epidermis or corium of my patient. Both appear normal. The clinical cutaneous hardening is now found to be subcutaneous. In sclerema neonatorum, on the other hand, there are important changes in the rete cells and an atrophy of the corium in addition to the subcutaneous fibrosis, and there is no record of muscular fibrosis, such as was seen in my case.

On the other hand, why do I finally decide in favor of scleroderma? I have just stated that the epidermis and corium were unchanged microscopically in my case, and that the fibrosis which produced the hardening was found only in the subcutaneous parts. I admit that this is not the histology of accepted scleroderma; and at the outset I wish to indicate why I have, in spite of this, thus entitled my case. It is because there is a "hide-binding"—a hardening of the skin—which, histologically and otherwise, has proved not to be edema or sclerema neonatorum. Elephantiasis has been considered as an alternative diagnosis; but it is dismissed on the basis of the widespread and symmetrical distribution in this case, and the age of the subject. The only disease with which the case can possibly be classed, dermatologically, without creating a new term, is scleroderma; and, furthermore, cases of this kind have already been described by Thibierge,8 Mérty, Westphal, Schultz and Goldschmidt, in which, as in my case, sclerosis was not present in the corium but in the subcutaneous tissue. I believe it better to consider that scleroderma is a group lesion, which is already known to be of variable etiology; that a lesion of such varied

8. I say "possible" in the realization that so little can be said dogmatically from the morbid anatomic standpoint in any disease until the etiologic factors are established; and if the causes of sclerema neonatorum and scleroderma should at some future date prove to be identical we would, of course, cease to regard the anatomic differences as "differential" ones, but simply as variants, perhaps depending on the disease stage in one and the same disease: witness the variability in degree of epithelial proliferation in histologic sections from different cases of skin tuberculosis—all one and the same disease etiologically.

etiology should be expected to vary occasionally in anatomic placement, at least to the degree shown in these subcutaneous cases; and that until the time comes when the rational etiologic classification is certain, it is better not to create a new name for a disease, but to classify it at least tentatively with some already established one. Better to put a rear

Fig. 5.—Very low power of section of skin over popliteal space. Fibrosis only begins when the lower portion of the fatty subcutaneous tissue is reached, that is, there is no fibrosis in the upper parts of the skin. M, muscle; N T, nerve trunks; A, arteries; M', region from which Figure 9 was taken.

shed temporarily on the old building than to build a new structure which will eventually have to be torn down and perhaps never have any connection with the old building. This is the course taken in the case herewith reported.
Gross Necropsy Notes (Abstracted).—The child had been dead for three days when necropsy was performed, and the body was considerably putrefied. Dense fibrous adhesions were found around the appendix and gallbladder.

Heart: Grossly the heart appeared normal. Foramen ovale and ductus arteriosus were patulous to the small probe.

Lungs: Grossly the lungs appeared normal except for congestion.

Spleen, Liver and Kidney: These appeared normal as far as the postmortem softening would allow judgment.

Small Intestine: The mucosa was normal except for Peyer's patches, which were slightly elevated, superficially ulcerated and showed granular red points. The lumen of the duodenum, jejunum and upper ileum contained thin, yellowish-gray, soupy material, which gradually became blood-tinged toward the lower ileum, and deeply so in the lowest.

Large Intestine: This (including the appendix) had a normal mucosa. It contained deeply blood-stained feces. The muscular and serous coats of the whole intestine, large and small, were normal.

Pancreas: This was normal in size, homogeneous, creamy in color, but hard.

Ureter and Urinary Bladder: These were normal.

Suprarenals: They were rather pale and soft, and below the normal size for an infant; otherwise, they were normal.

Head: The scalp, calvarium, dura and sinuses were normal. The pia-arachnoid was also normal.

Brain Substance: This was soft, and almost diffluent from autolysis. No gross abnormalities were found on extensive section.

Spinal Cord: This was so soft that it was useless for gross study. Apparently there was no inflammation, acute or chronic.

Extremities: Wegner's sign was negative for the right diaphyseal-junction so far as yellow color was concerned; but the line was irregular. Motion within the joint was quite free; its cavity was quite normal; there were no adhesions or roughenings of the lining. All periartricular tissues, however—joint-capsule, tendon, muscle, subcutaneous tissue, skin—were hard, fused, interlaced by white fibrous strands, and had clearly been responsible for the "spasticity" noted clinically.

Thyroid: This was normal in size, firm, and of normal homogeneous semitranslucent character.

Microscopic Findings.—All tissues examined histologically were fixed in Orth's fluid and sections were stained with hematoxylin and eosin.

Heart: The epicardium was normal except for congestion of its vessels. The endocardium was locally thickened, its fibers were largely granular and fused, and the nuclei pyknotic and deformed. There were no cellular infiltrates here, the appearance being that of advanced degeneration or near-necrosis, and not inflammation. The myocardium was normal, except around the arterioles where it was almost invariably infiltrated by lymphocytes and a few plasma cells extending in a thick mantle partly around the vessel. The endothelia of the vessels was not proliferated. Leukocytes in the lumina were recognizably increased in proportion to the red blood cells, and were mostly lymphocytes.

Lung: The pleura was normal except for congestion. The bronchi and vessels were also normal except for some over-distention of the former, and congestion of the latter. The air sacs were well expanded and empty; but their walls were thick and rich in closely packed, deeply staining, deformed connective tissue nuclei. There was no swelling or hyperplasia of the lining cells of the air sacs.
Liver: The capsule was very slightly thickened over the surface of the organ, and distinctly so in the perilobular positions around the artery, vein and duct; but no cellular infiltrates were found anywhere in the section. The arteriolar walls were thick in comparison to the lumen, but not fibrosed or hyaline. Their muscle fibers were granular, as though from the action of some toxic agent. The blood capillaries were very narrow or unrecognizable, presumably from the autolytic swelling of the parenchymal cells. In spite of these postmortem changes, it could be seen that the liver cells contained multiple vacuoles and were evidently fatty degenerated.

Kidney: Allowing for the postmortem degeneration, this organ showed no notable abnormality. There was no increase of intercellular substance, no cellular infiltrates or nuclear proliferations of the glomerular tuft. The vessels were only moderately congested. Tubular epithelium was granular and swollen, as would be expected in autolysis.

Spleen: As with the kidney, only a moderate congestion was noted from the pathologic point of view; there were no arterial fibrosis, hyperplasia of the reticulum or increase in the number of cells of the splenic nodule.

Pancreas: A section from the tail of this organ exhibited a very slight fibrosis in all but one lobule. In this it was marked, not only separating groups of acini but also isolating individual acini in a matrix of young fibrous...
tissue. Here the acini were a little atrophic; but elsewhere they appeared normal. Islands of Langerhans were numerous, large and normal. Several arteries, veins, nerve trunks and lymph nodes were noted in the peripancreatic areolar tissue, and were normal except for the congestion common to all the viscer.a. A section from the head showed a highly autolytic duodenal mucosa along one border, which apparently had not been diseased during life. The pancreatic tissue was in part normal, but in greatest part showed fibrosis similar to that just described, only much more marked. As a rule, the outline of the lobules was preserved by persistence of the original denser type of perilobular fibrous tissue; but over large areas even this was lost, and these parts then consisted of an extensive matrix of young fibrous tissue richly infiltrated with lymphocytes, endothelioid and plasma cells within which gland spaces occurred singly or in groups. Arteries in the fibrosed parts were also fibrosed; several smaller ones had thick, hyaline walls and narrow lumina, while a larger one was completely obliterated and its central parts calcified. These arteries were diseased differently from the hepatic ones, for here the process was definitely chronic. There was no endothelial hyperplasia of the intima. The matrical fibrous tissue was in places largely granular and its nuclei distorted as in advanced degeneration; but whether this was due to autolysis (in the pancreas) or toxemia, cannot be stated. The gland spaces just mentioned were variously sized, some tubular, like ducts; and others round and perhaps grouped like acini. Their lining cells were occasionally fragmented and necrosing; but generally they were intact and stained surprisingly well. If the other parts of the section had not been examined, this fibrosed portion might easily have been mistaken for adenoma or perhaps adenocarcinoma. Ducts in the more normal parts were normal as were also arteries everywhere. Islands of Langerhans were fairly numerous, some small, some large, and were normal except for autolysis.

Suprarenal: This was thin as a whole, and the different zones of the cortex were very poorly differentiated. All cells were shrivelled, granular, free of vacuoles, but with large deeply staining nuclei. There were no fibrosis, congestion or cellular infiltrates. The medulla was swollen and, merged with the pars reticularis, autolytic. A second section had the same general features. A portion of skeletal muscle was attached to the capsule externally (it must have been the upper portion of the psoas), and showed none of the fibrosis found in periaricular muscles.

Small Intestine: The serous covering of the peritoneum was quite normal. The subjacent fibrous tissue was swollen, a little granular, and in one place lightly infiltrated by a perivascular lymphocytic mantle. The blood vessels were congested, and their endothelia were swollen. Muscle fibers of both tunics were likewise swollen, and slightly dissociated by edema and widely scattered red blood cells. The submucosa at one end of the section was normal; but toward the center (at the margins of an ulcer) it became heavily thickened by proliferated connective tissue cells and a lymphocytic and plasma cell infiltrate, and here appeared a group of small arterioles, with walls thickened by edema. In all thickened parts there were numerous young capillaries—that is, this was a granulation tissue. At the other end of the section the submucosa was still more heavily thickened, and its more superficial parts were necrotic and merged with the necrotic mucosa. Along one stretch the mucosa and most of the submucosa were deficient (evidently sloughed off), producing an ulcer reaching just short of the muscularis. The internal muscular tunic here was also necrotic and the outer coat here was especially swollen. The
mucosa was superficially autolytic everywhere. At the more intact end of the section the nuclear staining was maintained at bases of crypts; but toward the ulcer this was quite lost, the cells disappeared, and only the stroma remained.

Thymus: Its surrounding areolar tissue contained arteries, veins, nerves, lymph nodes, lobules of fat and a little skeletal muscle. Of these, the arteries, veins and nerves showed no abnormality. Muscle fibers were very well preserved; their transverse markings showed well but the nuclei were solid and sometimes distorted. There was neither interfascicular fibrous overgrowth nor interfibrillar. The fat occurred in small round lobules. Its cells were of an undifferentiated type, many showing a central pyknotic nucleus which was only more or less surrounded by fat globules. The lymph nodes were all very small and exhibited no fibroses; their lymphocytes were abundant and uniformly distributed in both cortex and medulla without the production of follicles. The thymic lobules were of about normal size, well circumscribed, and fairly rich in lymphocytes. These were not packed more closely in the cortex, as is normal. The supporting reticulum was distinctly fibrosed. Corpuscles of Hassall were moderate in number, and one was calcified. In several different parts of the areolar tissue, extensive diffuse infiltrates of widely placed lymphocytes and plasma cells occurred.

Periarticular Tissue: This tissue was taken from the dense material adjacent to the knee joint, near the point of insertion of the tendon of the vastus externus into it. The section showed tendon, transversely cut muscle fibers and a few obliquely cut ones, fat lobules and a few small arterioles.

The tendon and interfascicular fibrous tissue were in greatest part normal; but in places both showed granularity of their fibrillae, took the stain more faintly than elsewhere and their nuclei were pyknotic or lost. They were evidently degenerate or nearly necrotic. Arteries frequently showed some pro-
liferation (and always swelling) of lining endothelia. The lumina were generally narrowed, and in one instance completely closed. In the latter case the endothelial cells were granular, disintegrated, fused, and their nuclei pyknotic and distorted, that is, were almost necrotic. The fat, unlike the last section, was normal, with no atrophy of its cells or intralobular fibrosis. The muscle showed marked fibrosis of all the interstitial parts: perimysium, epimysium and endomysium. The thickening of the last was most striking because added to it was an edematous infiltrate which irregularly broadened it still more, and gave it a smooth, hyaline appearance. The edematous material took on the form of a reticulum the strands of which were of irregular thickness—now filamentous, now sheet-like—within the meshes of which the muscle fibers lay.

The muscle fibers were never normal. The less severely affected ones were small, and showed no nuclei or small pyknotic ones. Their substance was hyaline and occasionally also vacuolated. The more severely atrophic ones appeared as shadowy, pale, hyaline, polygonal bodies, occasionally with a minute solid nuclenuis, but oftener with none, and so lacking in normal characteristics as to be scarcely distinguishable from the edematous endomysium surrounding it.

Infiltrates of lymphocytes and plasma cells and, rarely, a few polymorphonuclears were sparingly scattered in the muscle bundles and fibrous tissue around them. They were never arranged focally or otherwise to indicate a specific disease such as syphilis.

Spinal Cord: The dura was normal. The pia-arachnoid was torn, owing to its natural looseness, so that the exact relations of the patches of exudate to vessels and nerve trunks could not as a rule be made out. It was traversed by hugely distended and congested vessels, and infiltrated by a fibrinocellular exudate. The fibrin was loose, its strands were fine in most places and it enmeshed mostly lymphocytes; but a goodly number of polymorphonuclears, and not infrequently red blood cells, were also encountered. In all portions of the cord circumference, and frequently closely adjacent to blood vessels and nerve trunks, clumps of tissue were seen, the fibrillae of which were heavier than the fibrin, and which struck a blue tint and ran, in general, parallel to the cord circumference. They enclosed very closely packed cells of the same kind and in about the same proportion as mentioned in the case of the fibrin; but here their cytoplasms were granular and their outlines obscure—they were degenerate. Between them a pink, coarsely granular precipitate was noted. These clumps doubtless represented degenerate or necrotic portions of the pia-arachnoid which had been more severely affected than other portions. All of the lymphocytes had unusually broad cytoplasms, even in the lumina of the blood vessels; and while at first sight they suggested plasma cells, the nuclei were not sufficiently eccentric nor small enough in proportion to the cytoplasm. Nor did they show the peripheral grouping of chromatin which is characteristic of such cells. With this staining, and recalling the postmortem softening found grossly, the condition of the nerve fibers in the white matter of the cord could not be judged certainly. There were, however, no cellular nor fluid infiltrates of any kind. The central canal was normal. The gray matter of the horns was granular, torn, irregularly vacuolated, and was apparently semi-fluid. The cells in both anterior and posterior horns were badly degenerated, and their cytoplasms disintegrated; they contained coarse blue granules, were generally without a nucleus and rarely showed a pale one. The nerve trunks in the pia were not infiltrated by either fluid or cells, nor were they recognizably degenerate.
Skin: The corneous layer was thickened by a heavy superficial stratum of thin epidermic scales suggesting improperly removed vernix caseosa. This was suddenly and sharply succeeded by a thin stratum corneum consisting generally of one, and never more than two, layers of cells. A stratum granulosum or lucidum was not recognizable as such. The rete mucosum consisted variously of from one to six layers of cells, the average being about three. Small groups of cells contained, at wide intervals, fine grains of melanin. Papillae showed early development (but not any near hair follicles).

Passing to the corium we found the pars papillaris poorly developed embryologically, corresponding to the beginning stage of the papillae. Even thus early it showed a looser character than the stratum reticulare. It was normal except for the presence of an occasional small group of lymphocytes. The collagen bundles of the stratum reticulare were narrow and not associated with increase of elastic tissue, as shown by the Weigert staining. Nuclei of the bundles were on the whole plump, numerous and normal. Arterioles and capillaries were conspicuous by reason of their young type of endothelia, together with a light infiltrate of lymphocytes immediately around them.

The hair follicles and sweat glands were normal. There was no proliferation of intertubular connective tissue in the latter.

The subcutaneous fat was surprisingly abundant for such an emaciated infant, measuring from 5 to 6 mm. in thickness in microscopic section. Its intralobular fibrous tissue was about normal in weight, but the perilobular was

Fig. 8.—High power of skin of sclerodermic baby. Normal epidermis (contra sclerema neonatorum) and corium.
distinctly fibrosed. It carried no cellular infiltrates except around vessels which showed the same features as in the corium. The fat globules were normal, showing none of the hypoplastic changes noted in the section of the thymus. Under the fat, an extreme hyperplasia of white fibrous tissue embraced nerves, arteries and muscles alike, sending finer or coarser septums into the muscle fasciculi and surrounding individual fibers, as in the section from the peri-articular regions. Here many muscle fibers were cut longitudinally and showed, in addition to the atrophic and degenerative changes noted in a previous section, a hyperplasia of nuclei, most of which were pyknotic and solid, and not of the larger "budding" type seen in regeneration of muscle. Many fibers contained multiple, fine, sharply margined vacuoles—evidently they contained fat. Larger arterioles in these parts showed no fibrosis of the walls or reduction in the size of the lumina; but they did show frank degeneration along certain stretches. The internal elastic lamina, while unbroken, inclined in places to a bluish tint (elacin), and at the same time, might be surrounded both on the luminal and peripheral sides by a blue granular (calcareous) infiltration closely applied to and apparently extending into it. It extended not at all into the media.

Bone (from the end of the femur): Since the question of syphilis naturally arose, the examination was especially directed to the diaphyso-epiphyseal junction. It showed none of the irregularity or special lymphocytic infiltration of syphilis. The epiphyseal cartilage was perfectly formed, the cells toward the junction were arranged in their proper columns, and the line of the junction between the cartilage and the developing bone was regular and sharp.

The bony trabeculae of the diaphysis were delicate and of uniform thickness; and there were, if anything, smaller numbers of lymphocytes at the junction than toward the middle of the shaft.

The block of thyroid tissue was lost in technical washing; and I am unable to report on it microscopically. Bacteriologic cultures and special treatment for demonstrating the Treponema pallidum were not undertaken on account of the advanced postmortem change seen at necropsy and the method of fixation of tissue for histologic study.

Pathologic Diagnosis.—The following pathologic changes were found:

Heart: Local fibrosis and degeneration of the endocardium.
Lung: Congestion and atelectasis.
Liver: Fatty degeneration and perilobular fibrosis. Toxic degeneration of the arteries.
Kidney: Congestion.
Spleen: Congestion.
Pancreas: Chronic interstitial pancreatitis, atrophy, arteriosclerosis.
Suprarenals: Atrophy and exhaustion.
Thymus: Atrophy of the cortex and fibrosis.
Small Intestine: Subacute necrotic and ulcerative enteritis.
Muscle: Atrophy, edema, and chronic interstitial myositis.
Spinal Cord: Subacute fibrinocellular leptomeningitis and degeneration of horn cells.
Skin: Fibrosis of subcutaneous and muscular tissues; calcareous infiltration, elacinous and hydropic degeneration of the artery walls; atrophy and fatty degeneration of the muscle.
Bone (from the femur): Nonsyphilitic (morphologically), developing bone.
SUMMARY OF HISTOLOGIC FINDINGS

I have gathered the outstanding abnormal features of the foregoing description into eight groups on the basis of their value in interpreting the processes which had been going on in this baby. They are:

1. Retarded development. The lungs were atelectatic; the lymphocytes were deficient in the lymph nodes and thymus, and the lobules of fat around the thymus were of a simple hypoplastic type.

2. An ulcerative enteritis which showed nothing specific; i.e., indicated no special organismal (typhoid) or other causative factor. I am, therefore, justified in supposing that the usual enteritides group was at work.

3. A subacute meningitis. Here again there was nothing to indicate that any specific organism was at work; but from the fact that polymorphonuclears were in the minority, the meningococcus can probably be ruled out.

4. General congestive and degenerative changes secondary to the above acute infection or infections. These were seen in the heart, liver, spleen and arterioles of the liver.

Fig. 9.—Degenerate skeletal muscle. Taken from part of Figure 5 marked M. Illustration is reversed by optical system in taking photograph.
5. Occasional local arteriosclerosis. This was marked only in the fibrous hyperplastic portions of the pancreas. The form of arteriosclerosis shown was a hyaline degeneration involving all coats, and associated with an obliterating endothelial hyperplasia. It appeared to be of at least a number of weeks’ duration.

6. Other arterial changes. These consisted of: first, a simple elastic degeneration of the internal elastic lamina (artery in subcutaneous muscle), in one case associated with what appeared to be a calcareous infiltration; and second, a degeneration of the arteriolar walls (liver) approaching necrosis which produced swelling of them and marked narrowing of the lumen. The first of these changes was probably a simple chemical alteration, and cannot per se be regarded as the effect of any certain pathologic agency. The latter, on the other hand, was distinctly of a type produced by acute toxemia, and is certainly referable to the enteritis or meningitis.

7. Nerve cell changes in the spinal cord. These could be interpreted only uncertainly on account of the confusing postmortem changes. In some sections, the cells had quite disappeared from the anterior, and in other sections from the posterior horns. Since nothing of interest was anticipated grossly, tissue was not fixed suitably for determination of myelin degeneration. I feel that the grade of nerve cell loss was too great to be accounted for on the basis of simple postmortem change; but I have to grant that there are absolutely no associated leukocytic or other phenomena to support an idea of inflammatory changes.

8. Fibroses of the pancreas, liver, muscle, fat and lung(?) That of the pancreas was extreme, of the type seen in congenital syphilis, and associated with sclerosed arteries. In the absence of syphilitic indications elsewhere, I am unwilling to state that this baby was syphilitic. The fibrosis of fat and muscle was likewise marked when present; but did not occur in all parts of the subcutaneous tissue. That of the lung should be considered more as a comparative than as a real fibrosis, only appearing to be bulkier on account of the imperfect development of the air sacs. That in the liver was no more than is seen in the well-known “infectious cirrhoses” of childhood, and could be referable to either the meningitis or enteritis. Taken all in all, the fibrous changes indicate a pathologic process certainly of longer duration than fifteen days (the age of the baby), and that therefore part of its disease was intra-uterine.

On the whole, then, the histologic picture is one of chronic disease affecting the pancreas, certain arteries of the pancreas and subcutaneous tissue and the subcutaneous tissues. On this is superimposed an acute infection primary in the intestines; but whether it is of sufficient duration to have caused the meningitis secondarily cannot be stated.
Neither can the relation of the meningitis to the subcutaneous fibrosis be shown today, but the symmetry of the involvement, the lack of cellular infiltrates of inflammation, together with hitherto recorded similar cases, support me in my belief that the meningitis (and possibly nerve cell degeneration) were causative.

**THE RÔLE OF syphillis IN THIS CASE**

As before stated, I am unwilling to say that this baby was syphilitic. I feel that there is not sufficient evidence, in all fairness, to come to such an important diagnosis without qualification—important because

Fig. 10.—Muscle with fibroses and hyaline degeneration; N T, nerve trunk.

the local sclerosing traits of syphilis, such as were found in this baby's skin, generally speaking, could easily be conceived of as the effect of syphilis and thus vitiate the nervous incrimination finally arrived at. I appreciate that every one of the stigmas of syphilis need not be invariably manifested in every syphilitic infant, i. e., that plantar bullae, Wegner's sign, and pneumonia alba need not be insisted on before pronouncing a dead baby to have been syphilitic; but, more than this, in this case the only important evidence of syphilis was the histologic appearance of the pancreas. An eminent dermatologist saw no syphilis clinically, none was found at necropsy, and only one major
and several minor indications were noted in the subsequent histologic studies. In spite of all these facts, it is my belief that the Spirochaeta pallida would have been found had the tissue been available for its demonstration; but there is too much difference between faith and fact to say outright that this baby was syphilitic.

RÔLE OF ARTERIOSCLEROSIS

The case is perhaps of further service in regard to the question of relationship between the cutaneous fibrosis and arterial obliteration which all authorities agree are often present in scleroderma, but the sequence of which is disputed. Dinkler believed the arteriosclerosis to be primary; Unna, secondary; the latter advancing certain reasons and hoping for further future findings for additional evidence. Some evidence seems to be at hand in this case to uphold Unna, for in the sections of the skin in this case, the collagenous hyperplasia had become developed without any signs of vascular closure. In the pancreas, vascular closure and fibrosis were associated; but there was no evidence as to which preceded the other.

Doubtless, the debaters have set up and are pushing and pulling a straw man. Scleroderma is anatomically essentially a fibrosis of the skin, just as arteriosclerosis is essentially a fibrosis of arteries; in both there is more or less atrophy of the contained parenchymatous structures. Referring back to the simplest general pathologic principles, fibrosis may come about either reactive to some more or less irritative and known stimulus, or secondary to reductions of tissue bulk such as are seen in degenerations and atrophy—the release of tissue tension of Ribbert; and it is not reasonable to assign any special properties to the cutaneous organ in this respect which would immunize it to the general laws operative for others, like the arteries. Variations in the form of the fibrosis are of course to be expected in the different organs depending on anatomic peculiarity; but the basic principles and processes should operate in all. We ought therefore to grant, in the absence of any known etiologic factor, such as an arteriosclerosis that is general, or thrombo-angitis obliterans, or a definite earlier primary acute cutaneous inflammation, etc., that in different clinical cases wherein the two are associated, either the arteriosclerosis or the fibrosis might have been primary. And surely Unna and Dinkler were drawing conclusions from observations on different clinical cases. In short, just as the causes of scleroderma are conceivably (at least until it has been proved that they are the same) various in different cases, and variously might induce either fibrosis or arteriosclerosis at first hand, so the sequence of arteriosclerosis and fibrosis in the skin should be expected to vary in different cases if they be associated. At the same time we should keep our minds open to the possibility that even arterio-
sclerosis is not a sine qua non in scleroderma, as Crocker indicates when he reports only thromboses in his histologic sections, and as appears in the case herewith reported.

**SUMMARY**

The hide-binding in this 15-day-old baby, probably syphilitic, dying with enteritis and meningitis, suggests sclerema neonatorum; but it is symmetrical and periarticular, and at necropsy the induration is found to be purely subcutaneous. On these and other grounds, the diagnosis of sclerema neonatorum is rejected, and the case finally placed in the general group of scleroderma without affixing any new name to this pure subcutaneous form, believing it to be of the same known nervous causation as many other cases of scleroderma.

The case may some day be valuable in that this symmetric, periarticular form of scleroderma may prove to afford a useful differential clinical diagnostic feature by pointing toward a coexistent meningitis; and if another of these rare cases should come under observation, the effort should certainly be made to obtain a sample of spinal fluid by lumbar puncture. If lumbar puncture had been done in this case, I feel justified, on the basis of the histologic examination, in estimating that the cells would have been markedly increased, and that a differential count would have shown about 40 per cent. polymorphonuclears and 60 per cent. lymphocytes.
CONGENITAL ECTODERMAL DEFECT, WITH REPORT OF A CASE.*

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This case is reported not only because of its apparently extreme rarity, but also because it may serve as a stimulus to further investigation of the factors responsible for defective development of the ectoderm. A convenient opportunity is also afforded to discuss certain phases of the function of the skin on which modern physiologists and dermatologists still disagree. Our case is the second of its kind reported in the American literature and the sixth reported in the world's literature. It stands absolutely unique, however, in the fact that the developmental defect occurred in a female; all other cases reported occurred in the male. The significance of the latter fact will be apparent from subsequent discussion. It would seem, however, that the extreme rarity of this type of case is more apparent than real. All evidence in the literature points to the fact that the extremely high grades of ectodermal defect are not excessively rare. A larger number of reported cases could undoubtedly have been classified with the group under consideration had their investigation been sufficiently complete. Nor are these cases of purely academic interest as the experience of the patients and their medical advisers attest.

Cases of ectodermal defects of a partial character, such as congenital aplasia of the teeth, hypotrichosis, or even congenital absence of circumscribed patches of skin, are no longer medical curiosities. Congenital aplasia of the teeth is reported in the very earliest medical writings and numerous references to it are found in the later medical literature. True congenital hypotrichosis is distinctly more rare, and the majority of cases reported as such are undoubtedly of the alopecia totalis type, in which the fetal hair is formed but later drops out and does not grow again. The work of Waelisch,1 Pinkus 2 and others, and notably the careful studies of Buschke,3 have familiarized us with true hypotrichosis. A combined absence of the teeth and hair is found in still rarer instances. Circumscribed skin defects of a congenital nature

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are reported in limited numbers. Abst, in 1917, collected thirty-four cases in the literature, and added another of his own. Almost any region of the skin was involved in one or the other of these cases, but the defects were most frequently noted in the scalp.

In one group of cases of high grade congenital ectodermal defect reported in the literature there is not only a congenital absence of the teeth and a hypotrichosis, but also a total absence of sweat glands and an almost total absence of sebaceous glands. This combination gives the cases a stamp which places them in a class by themselves. To date there are only five cases of this type on record.† The first of these was reported in 1883 by Guilford, an American dentist (Fig. 1). As he said, he had the pleasure of presenting a very remarkable man. The

Fig. 1.—Guilford’s patient. Note the prominent forehead, alopecia, and depressed nasal bridge.

patient was 48 years of age, and in perfect physical health, never having been confined by sickness for a single day. He had been edentulous from birth; he was totally lacking in the sense of smell, and almost devoid of the sense of taste; the surface of his body was destitute of the fine hair that should cover it, and he had never per-


† Since this article has gone to press I have noted an abstract of an article by J. Strandberg on “Arrested Development of Ectoderm,” in J. A. M. A. 73:873 (Sept. 13) 1919, reporting what appears to be a case analogous to those herein described. The original case report appeared in Nord. med. Arch. 51:1 (Oct. 18) 1918, Int. Med. Sec., No. 1. As yet I have not had access to the original article.

spired. Tendlau, in 1902, reported a case presenting very much the same characteristics as that of Guilford (Fig. 2). He concerned himself chiefly, in his discussion, with the absence of sweat glands in the skin and erroneously interpreted the lack of development of the skin as an atrophy. In fact he heads his article: "Concerning Congenital and Acquired Atrophia Cutis Idiopathica," and discusses elaborately several cases of acquired atrophy of the skin. Wechselmann and Loewy, in 1911, subjected Tendlau's case and two others (Figs. 3 and 4) to a most careful study. Their investigation was devoted chiefly to the mechanism of production of insensible perspiration. Christ, in 1913, added a further case and discussed the relationship of the various ectodermal structures to one another in the animal kingdom. To this classic group I wish to add our own case.

Fig. 2.—Tendlau's patient. Note the features characteristic of congenital ectodermal defect. Mustache and beard well developed as in all other male patients.

REPORT OF CASE

Case 240873, I. C., a woman, aged 21, born in England, stenographer, came to the clinic primarily to have some plastic work done on her nose, which was rather flat in the bridge.

Examination.—Examination revealed a person of a rather frail build, but on the whole presenting a fair average physical development, excepting only that of the skin and its appendages. The skin was exceptionally fair, smooth, thin, pli-


able and dry, and showed the superficial veins plainly. There was a notable absence of the lanugo hair on all parts of the skin, and only a few straggling hairs were seen on the scalp. The genitalia and axillae were practically hairless. About the labionasal folds and on both upper and lower lids was a number of soft split-pea sized papules strongly suggesting small sebaceous cysts or milia. On the back were a few papules and pustules and the scar of an intramuscular

Fig. 3.—Wechselmann's patient. Note the characteristic profile of patient practically duplicating that of our patient in Figure 6.

Fig. 4.—Another patient of Wechselmann.

arsphenamin slough. The nails of the hands and toes presented uniform fine longitudinal furrows. The vermilion border of the lips was poorly defined. On physical examination it was found that both jaws were devoid of visible teeth. The roentgen-ray report, however, stated that several "fragments" of teeth could be seen in the right upper jaw. The patient gave a history of having had several defective teeth removed from her upper jaw; she had never to her
knowledge had any teeth in the lower jaw. The rhinolaryngologist reported an atrophic rhinitis, and a destruction of the turbinates on both sides with much pus and crusting. No adenopathy could be determined. The forehead was unusually prominent and the bridge of the nose flat (Figs. 5 and 6). Aside from these two features, there were no osseous changes which even remotely suggested any of the osseous stigmata of lues hereditaria. The nervous mechanism was apparently normal, only a slight hyperactivity of the knee jerks being noted. The mentality was fair, probably somewhat above the average. The viscera were normal.

Fig. 5.—(240873.) Author's patient. The scalp is covered by a wig, which hides the almost total alopecia.

History.—The patient gave a history of two aunts and one uncle having died of tuberculosis; one aunt suffered from epileptic attacks and died insane. The father was said to have had syphilis. There was no history of any other member of the family having been afflicted as was our patient. One sister died at 1½ years of age; one brother and one sister were living and perfectly well.

The patient began to have trouble with her nose when she was 9 months old. She had never perspired even in the hottest weather. She had suffered
from a variety of ailments all her life, but a definite diagnosis of her condition had not been made. For many years she had been taking medicine by mouth regularly, but had never known exactly for what purpose. She had had two salvarsan injections, evidently on the supposition that she was afflicted with heredo syphilis.

**Histologic Report.**—The patient, after some persuasion, submitted to biopsy. The tissue was taken from the outer aspect of the left arm; a piece at least three-fourths inch in length was excised from deep in the subcutaneous fat. While we realize that in theory the total absence of hair, sebaceous glands, and sweat glands can be demonstrated only by an examination of a number of pieces of tissue from different parts of the body, such an examination in this case was out of the question.

For purposes of comparison an exactly similar piece of tissue was taken from the skin of the outer side of the arm of a normal adult female (surgical amputation (Fig. 7). In order to identify and compare the anlagen of the pilosebaceous and sudoriferous systems in the human embryo, a specimen was taken from the outer sides of the left arms of human embryos measuring 5 cm., 7 cm., 10 cm. and 25 cm., and from a fetus at 7 months.

**Fig. 6.**—Lateral view of author's patient.
The epidermis and cutis of the patient were absolutely normal as compared with a section of normal skin, except for the total absence of hair follicles, sebaceous glands and sweat glands. The cutis in the case of ectodermal defect displayed a normal vascularity, made artificially conspicuous by the absence of the usual association with pilosebaceous and sudoriferous structures. There were no increase or diminution in the collagogenous or elastic tissue of the cutis, no signs of an inflammatory process, no abnormal elongation of the occasional rete pegs, and no cellular infiltration of any type. The sections showed the tissue far into the subcutaneous fat. There were no cell inclusions, either solid or tubular, of the type generally recognized as anlagen of sweat glands in the familiar picture of syringocystoma (Fig. 8).

The comparison of the skin of the fetal arm with that of our patient indicated that in the site from which the specimen was excised there are in late fetal life and immediately after birth many lanugo hairs with their associated sebaceous glands, and numerous sudoriferous glands which have not quite reached their final development by the seventh month of fetal life (Fig. 9). The various structures representing the anlagen of these glands, as illustrated in Figures 10 and 11, were carefully searched for in the material from our patient, but as seen in the photomicrograph (Fig. 8) they were totally absent.

In the histologic material, therefore, we find that the pathologic process in such a patient is neither an atrophy nor a simple rudimentary development, but consists in a total absence of pilosebaceous and sudoriferous systems and their anlagen, at least in adult life. Whether at some stage in the embryonic development in our patient such anlagen appeared only to undergo regression or to be destroyed, it is of course impossible to state with positiveness from an examination of a specimen removed from the adult.

**DISCUSSION**

Wechsellmann believes that congenital ectodermal defects of the type presented by our case are familial and inherited, and are analogous to the type of hereditary transmission seen in hemophilia and hemeralopia. The analogy may be allowed in so far as these diseases are transmitted through the female, but the defect need not always be transmitted to the male, as our case plainly shows. In other words, these congenital defects are not always recessive in the female. Whether or not hemophilia and hemeralopia are always recessive in the female is still a problem, despite the careful studies of Bulloch and Fildes. The familial transmission of the ectodermal defects is well shown by a family tree compiled by Wechsellmann for his cases. From these findings he wishes to prove the recessive character of the ectodermal defect in the female. Our own case evidently disproves this supposition. Christ's case apparently also bears out the theory that this condition is familial. A familial history was not elicited in our case, possibly because of the insufficiency of the data obtainable. Most of the reported cases of ectodermal defect, like those of hemophilia

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Fig. 7.—Section from the arm of a healthy woman. Note the presence of sweat glands and the hair follicle.

Fig. 8.—Section from the arm of our patient, showing total absence of the sudoriferous and pilosebaceous systems.
and hemeralopia, are in the families of exceptionally fertile women. In Guilford's case the mother of the patient had married at 16 and died at 40, and during that time had given birth to twenty-one children. The mother of Tendlau's patient gave birth to fifteen children in two marriages, and the mother of Wechselmann's patients also bore fifteen children. This fecundity of the mothers of patients is not apparent in Christ's case nor in our own, each of these mothers having given birth to four children.

Syphilis as a causative factor deserves special attention. Familiarity with this striking group of cases, which present practically identical features, would hardly warrant an assumption of activity of the Spirochaeta pallida as it appears in the ordinary case of syphilitis hereditaria. The activity of the spirochete in ectodermal defect could be explained only by assuming that the injurious influence had been suddenly exerted at the time of the third or fourth month of embryonal existence and had then rapidly subsided, which would seem rather unlikely. Christ reports that his patient was without doubt infected with syphilis. He does not say on what grounds he bases this assumption: the Wassermann reaction on the patient's blood was negative on one occasion. In discussing his case, he admits that he was at first inclined to believe that the developmental defect was of syphilitic origin. On discovering the familial tendencies, however, and on careful consideration of our present day conception of the genesis of congenital syphilis, he later came to the conclusion that syphilis is not a causative factor. In our case the history is rather suggestive of a syphilitic factor. The patient's mother told her that the father had acquired syphilis while serving in the British navy. The patient herself had been treated for syphilis, but evidently chiefly on the basis of the changes found in the nose, and probably by some one ignorant of the existence of the type of congenital defect under consideration. There were no other signs suggestive of syphilitis hereditaria except those equally characteristic of this group of defects. The Wassermann test of the blood was negative. If syphilis was present in Christ's case or in our own, it was probably only incidental.

Guilford does not discuss the pathology of the skin of his patient. Tendlau, in a description of the skin of his patient, speaks of an atrophy, and in his report elaborately discusses other cases of cutaneous atrophy. In one paragraph he carefully notes, however, that nowhere does he see any regressive changes such as atrophy. Moreover, he concedes that there are no rudimentary nor partially developed sweat glands to suggest that the anlagen of these structures had ever existed. Wechselmann insists that there is no sign of atrophy in the skin but that it resembles the embryonal type. In our case there were no signs of regressive changes in the skin. There was an entire
Fig. 9.—Section from the arm of a 7-months-old fetus. The sweat glands and hair follicles are not yet fully developed, but they show plainly.

Fig. 10.—Section from the arm of a 10 cm. fetus. Note the epithelial buds.
absence of such cell inclusions as might warrant an assumption that embryonal vestiges of lanugo hair and sweat glands had ever existed. A striking feature in this group of ectodermal defects is the hypotrichosis described by all observers. Our patient’s scalp contained only a few tufts of straggling, dry hair. The genitalia were also practically devoid of hair, and the lanugo hair was absent over the entire body. The aplasia of the teeth has been noted in all cases, and such teeth or dental “emboli” as there are, occur in about the same part of the upper jaw as in our case, probably replacing the incisors and canines. In the lower jaw in all cases studied by roentgen ray, teeth and the anlagen of teeth were completely absent. Wechselmann’s article is illustrated by photographs of plaster models of the jaws, and copies of his illustrations are here reproduced (Fig. 12). Such teeth as there are, are broad at the base and pointed at the tip, showing a close resemblance to the canine teeth. They are widely separated. Our patient had never had a tooth in her lower jaw, and the upper teeth were imperfect and had been removed. Roentgen-ray examination showed “fragments” of teeth in the right upper jaw.

The gross characteristics of the skin are in all instances very similarly described by the various authors. The skin is said to be thin, pliable, dry, unusually white and transparent, with marked prominency of the superficial veins. The mouths of the follicles are distinctly visible in some locations, but not in others.

Wechselmann noted a few milia about the nose in his cases. These general characteristics of the skin were apparent in our patient, and we also noted the milia about the nose. Christ describes a condition in the nasal and orbital region of his patient, which reminded him of a xeroderma pigmentosum; Touton, who saw this patient, was also reminded of the same disease, but only in a mild form. This condition was not described in any of the other patients, nor was it seen in our own.

The nails of Tendlau’s patient were well developed. Wechselmann notes that in one of his patients the nails were normal. A definite trophic deformity of the nails was noted in our patient; its etiologic basis is unexplained.

Atrophic rhinitis was present in the patients described by Tendlau, Wechselmann and Loewy, and Christ. Guilford does not describe this condition, but he specially mentions the fact that his patient had lost the sense of smell and largely that of taste. In our patient a well marked atrophic rhinitis, with atrophy of the mucous membrane of the pharynx and larynx, was noted, the latter producing a distinct hoarseness. In addition to this a nasal examination revealed destruction of the turbinates on both sides with much crusting, probably a result of secondary infection.
The vermilion border of the lips in our case was not so sharply defined as in the normal person. The detail is not specifically noted in any of the other cases.

Prominent frontal bosses and a depressed nasal bridge were the chief bony changes, as all the pictures well show. Our patient came

Fig. 11.—Section from the arm of a 25 cm. fetus. The immature sweat glands and hair follicles are clearly shown.

Fig. 12.—An illustration of Wechselmann's plaster model of the jaws and dental "emboli" of one of his patients.

for treatment primarily to have the shape of her nose improved. A plastic operation was attended by a considerable degree of success.

The feature which distinguishes this group of cases of ectodermal defect from all others, is the total absence of sweat glands and the
almost complete absence of sebaceous glands. On this defect are based the symptoms which give them their special practical and theoretic interest. All the patients state that they do not perspire even in the hottest weather, and to this our case is no exception. Guilford's patient was a cobbler by trade and lived in a farming community. During the summer months he worked with various farmers as a field hand. Whenever so employed it was always necessary to engage a boy to carry water from some neighboring brook or well to pour over him to keep his clothing wet. If the arrival of the water happened to be delayed, he became weak and collapsed from the heat. Tendlau's patient wore a wet shirt during the hot months. This he kept continually moist under a pump. When the heat became too great he frequently collapsed. This patient from childhood had been in the habit of eating only cold meals during the hot weather, because he had noticed that he became feverish on the ingestion of hot foods. A similar story is told by the other patients, and all of them were forced to change their original occupation because they could not tolerate heat. Because of these peculiarities one of Wechselmann's patients was temporarily regarded as a malingerer and the other as suffering from phthisis. Our patient, while she could not perspire, suffered less hardship probably because as a woman she was less subject to exposure and hard physical work.

The mental condition of Guilford's patient was reported as normal; the patients of Tendlau, Wechselmann and Loewy, and Christ were of a distinctly inferior mentality; our patient was of average mental acuity, if not somewhat above it.

Congenital ectodermal defect apparently does not interfere with the longevity of the patient. Guilford's patient was 48 when his case was reported. Wechselmann studied the patient originally described by Tendlau when the patient was 57 and in good general health.

Much interesting experimental work has been done on these cases and much light thrown on the physiology of the skin. Vierordt¹⁰ estimates that the relative values of different modes of heat loss are about as follows:

<table>
<thead>
<tr>
<th>Loss by</th>
<th>Per Cent.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine and feces</td>
<td>1.8</td>
</tr>
<tr>
<td>Expired air; warming of air</td>
<td>3.5</td>
</tr>
<tr>
<td>Vaporization of water from the lungs</td>
<td>7.2</td>
</tr>
<tr>
<td>Evaporation from skin</td>
<td>14.5</td>
</tr>
<tr>
<td>Radiation and conduction from skin</td>
<td>73.0</td>
</tr>
</tbody>
</table>

Of course, these percentages vary somewhat with the surroundings, but they tend to emphasize the importance of the skin as a heat regu-

lating organ. While it is true that the lung normally dissipates the greater part of the heat in some of the lower animals, and does so vicariously very effectively in others, in man this function of the skin is apparently vicariously taken up by the lung in a very unsatisfactory manner. The cases of ectodermal defect previously reported have shown the relationship that exists between the lungs and the skin as heat regulating organs, and have offered ideal conditions for experimentation. Tendlau and Loewy have definitely shown the importance of the skin as a heat regulator and the inability of the lungs vicariously to assume this function in man.

On one occasion Tendlau's patient, on drinking a pint of milk at 104 F., was observed to undergo a rise of temperature of 0.4 degrees within five minutes, followed by a further rise of 0.9 within the next fifteen minutes. The temperature then gradually dropped to its first level. Very noticeable were also the rises in temperature following exposure to the sun. On a perfectly quiet day the temperature rose at the rate of 1.8 F. every ten to fifteen minutes. This rate was increased by physical exertion, extreme degrees of heat, and an increased humidity. On one occasion the patient was exposed at 12 o'clock noon while the air temperature was 89.6 F. After an exposure of twenty minutes to the sun the body temperature rose 3.7 F. Simultaneously mild, subjective symptoms appeared, such as are seen in a febrile person; that is, slight restlessness, sensation of heat, and headache. Similar experiments were repeated frequently, always with the same results. The highest temperature observed on this patient was accidentally obtained on a hot day. It rose on this occasion to 105.4 F.

Tendlau, by observations on his patient, was reminded of the behavior of poikilothermic animals. He, therefore, determined if possible to obtain the temperature changes in the opposite direction by applying cooling procedures. Prolonged cold baths were used, but no abnormal reduction in temperature was observed. Similar experiments were carried out by Loewy on his patients with similar results. Both observers carefully watched the respiratory function in the persons in whom an increased amount of heat dissipation was made necessary by the experiments. Tendlau’s patient was carefully examined by Zuntz relative to his respiratory behavior under these conditions. Zuntz found an increased respiratory volume and rate at all times, analogous to the results obtained in nonsweating animals. Loewy confirmed these findings by further experiments.

In an endeavor to determine the absorbing power of the skin of such a patient Tendlau employed two methods. In both instances he used a potassium iodid ointment, which in all probability does away with the objection that some of the drug was absorbed by inhalation. When this ointment was applied loosely under a bandage, no absorption of the potassium iodid occurred. On the other hand, when the ointment was rubbed into the arm and the arm bandaged, potassium iodid could be demonstrated in the urine in about six hours, which is no marked variation from the normal. Tendlau's first experiment tends to show that a certain amount of friction is necessary to produce any absorption. His experiments did not determine whether or not a certain amount of trauma is necessary to produce absorption, because it is impossible to say after thorough friction that the skin has not been sufficiently traumatized to produce a histologic break.

The mercurial inunction experiments performed by Wile and Elliot on patients, and on rabbits by Schamberg, apparently definitely settle the fact that there is absorption through the skin when ointments are rubbed into it. Many other observers believe that oily preparations are quite readily absorbed through the skin. Because of the total absence of sweat glands and the probable total absence of sebaceous glands on the arm of Tendlau's patient, the findings in his inunction experiments constitute experimental evidence that the glands of the skin are certainly not essential and in all probability not necessary to the absorption of drugs in the normal person.

Merely as an illustration of the wide divergence of opinion on the mode of absorption of substances through the skin, Landois, on the one hand, believes that the mercury globules pass into the hair follicles and ducts of the glands, where they are affected by the secretion of the glands, and transformed into a compound capable of absorption. This view is supported by Neumann and Auspitz and concurred in by Duhring, Robinson, Stelwagon and others. On the other

18. Robinson: Ibid.
hand, Rindfleisch, Fleischer, Voit and others believe that the particles of mercury pass directly through the epidermis. The latter view appears to be most strikingly supported by the observation of Voit, who found globules of mercury between the layers of the epidermis and in the corium of an executed criminal, into whose skin mercurial ointment had been rubbed previously.

With reference to the question of the mechanism of perspiration, on which these cases throw some light, physiologists are well agreed that sensible perspiration is a true secretion, a product of the sweat glands. On the production of insensible perspiration, however, they have disagreed ever since the discovery of the sweat glands by Malpighi and Stenson. The arguments pro and con brought forth by various observers in support of their views need not be discussed here. Suffice it to say, that in a considerable number of modern textbooks on physiology and dermatology a discussion on the mode of production of the insensible perspiration is either entirely omitted or no decided stand is taken with regard to it.

The experiments undertaken by Loewy on Wechselmann's patients with a total absence of sweat glands tend to substantiate the marked importance of the physical process of transudation as a factor in the loss of moisture by the body under ordinary conditions. By carefully controlled experiments Loewy found that under conditions in which only insensible perspiration could be given off, the two patients with ectodermal defect eliminated a minimum of 123 gm. and 242 gm., and a maximum of 436 gm. and 600 gm., respectively, as compared with an average minimum of 112 gm., and an average maximum of 700 gm., in five healthy persons. This result substantiates the fact that so long as the water is given off in an insensible manner, the quantity of water given off by the healthy person is no greater than that given off by those without sweat glands. The sweat glands, therefore, are not perpetually active, but only become so under special stress. Diffusion and not secretion is, therefore, the primary method of water elimination through the skin. Loewy further demonstrated on his case, by the method of Aubert, that there is a point at which perspiration is still insensible but at which the sweat gland takes some part in its production. This point varies in different persons and also on different parts of the body in the same person. It was impossible to carry on physiologic experiments on our patient, largely because of her indifference.

CONCLUSIONS

1. There exists a group of typical cases of high grade congenital ectodermal defect, the extreme rarity of which, suggested by the scanty literature, is probably more apparent than real.

2. The patients in this group all present a facies very closely resembling that of heredosyphilis.

3. The influence of syphilis in the production of these congenital defects is probably nil.

4. The reported cases of this group of ectodermal defects have exhibited a total absence of sweat glands, an almost total absence of sebaceous glands, a hypotrichosis with absence of lanugo hair, and a dental aplasia.

5. Such patients suffer from a disturbance of the heat regulating mechanism, dependent on the inability of their skins to eliminate the necessary amount of water to keep the temperature level constant under varying external conditions.

6. Valuable contributions to our conceptions of certain phases of the physiology of the skin have been made by experiments on patients with this type of congenital defect.

The writer wishes to acknowledge his indebtedness to Dr. J. H. Stokes, Chief of the Section of Dermatology and Syphilology, for assistance in the arrangement of this material.
SYphilis of the Kidney, Ureter and Suprarenal

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The establishment of syphilitic disease of the kidneys on a firm clinical basis is of considerably later date than any of the other syphilitic visceropathies. This is no doubt true because of the great difficulty of differentiating between the end-result of syphilitic disease and the common forms of fibrosis of the kidneys, whether the latter be produced by old age, disease or both. Moreover, the differentiation between renal irritation due to syphilitic processes and the various other types of nephritis constitutes a second difficulty in establishing a pathologic diagnosis. That nephritis occurred in the course of a syphilitic's life, however, was recognized by clinicians before the establishment as an entity of true syphilitic renal disease. This nephritis, however, was interpreted as the effect of mercury rather than as in any way related to the disease process. In 1859, Rayer placed syphilitic kidney disease on a firm basis. After him Virchow, Perroud, Fournier, Wagner¹ and others contributed undoubted pathologic and clinical evidences of syphilitic disease of the kidneys. In our own country the subject has received but little attention. LaFleur² contributed, however, in 1896 an excellent monograph on the subject, and case reports are recorded by Greene,³ Fordyce⁴ and Montgomery⁵ and in England by Parkes-Weber and Bowlby⁶. In France the subject has received greater study than elsewhere, and Mauriac's⁷ work in particular stands out today as the accepted classic on the subject.

As a result of syphilitic infection, we recognize today, transient albuminuria, acute parenchymatous nephritis, chronic interstitial nephritis, gumma of the kidney, amyloid kidney and paroxysmal hemoglobinuria.

**SYPHILITIC ALBUMINURIA**

From time to time in the course of an active syphilis, occasional albumin has been described as occurring in the urine. The early interpretation of such albuminuria, particularly as held by Wells and Blackall in England and Bunz in Germany, was that it was due to mercurialization. That this may be true is shown by the studies of Welander and Heller. It is now established, however, beyond a doubt that transient albuminuria may occur in patients who have never received mercury, probably associated with the extensive anemia so frequently seen, particularly in the early period of the disease. The breaking down of hemoglobin, as has been shown clinically and experimentally, gives rise always to albuminuria, and occasionally even to a low grade of nephritis.

**Symptoms.**—There are practically no symptoms associated with transient albuminuria. The finding is usually an accidental one. When, however, the cases persist, a chronic nephritis may supervene with the symptoms characteristic of this condition. This is exceptional and the transient albuminuria is usually benign, subsiding either spontaneously or under the influence of treatment.

**ACUTE PARENCHYMATOUS NEPHRITIS (NEPHRITIS SYPHILITICA PRAECOX)**

Of all types of syphilitic kidney disease, this is the most easily recognized, and has received the greatest attention from clinicians. This type of nephritis was studied pathologically first by Wagner, Virchow and Beer, and clinical cases are reported by Mauriac, Dieulafoy and Plique, LaFleur, Doederlein, Stepler, Vulpian, Hudelo, Darier, Karvonen, Munk, Montgomery, Fordyce, Stokes and

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others. The clinical phases of this type of nephritis are covered in an article which appeared in 1916, together with a case report by Stokes. One such case has come under my observation at the University Hospital clinic.

**Symptoms.**—For the most part, all the cases have been practically identical in their onset, the largest majority occurring with the exanthem in the first few months of the infection. Audry's case, however, occurred in the preroseolous period, antedating other secondary manifestations. The first symptom noted, as a rule, is edema. It occurs either brusquely or insidiously and may be localized on the face; more frequently, however, it is noted around the eyelids and face and around the lower extremities, gradually increasing until a general anasarcaous condition is reached. Effusion into the serous membranes with hydrothorax, ascites and pericarditis has been noted in a few cases (Parkes-Weber, Mauriac). Occasionally the onset may be accompanied with slight headache, although this is not nearly so common as in other forms of acute nephritis. The urine is usually dark, somewhat decreased in amount with a very high specific gravity, and is characterized principally by an enormous albuminuria, varying from 1 or 2 gm. to 20 or 30 gm. per liter. Fournier speaks of a case in which 110 gm. of albumin were eliminated daily. In one of Chantemesse's cases 53 gm. per liter were eliminated. The sedimented urine contains a large number of granular, hyaline and blood casts, and there are occasionally leukocytes and red blood cells. Oliguria, at times even anuria has been noted. Associated symptoms are dyspnea and an extraordinary pallor. The other symptoms are the same as those which accompany acute toxic or infectious nephritis. Thus, anorexia, vomiting and epistaxis have been mentioned as occurring in a few cases. A previously damaged kidney may unquestionably be a factor in the development of some cases. I have seen one such case in a woman, aged 25, who in the early months of her infection and while under active treatment developed acute fulminating symptoms, marked oliguria and enormous increase in albumin, the rapid onset of cyanosis and uremic convulsions. She died within seven days. The postmortem findings showed an acute parenchymatous nephritis, superimposed on an old interstitial nephritis. An additional interesting finding was acute arsenical poisoning in the liver, due to arsphenamin.

**Course.**—Unrecognized, this type of nephritis is apt to be fulminating, death occurring within a short time with symptoms of uremia and

coma. While not so common as in the interstitial form, uremic convulsions have been noted in some instances. Occasional spontaneous regression may occur in cases which escape diagnosis. Such cases, however, are apt to recur or become chronic in type. Death may occur in a few days, as in cases recorded by Vulpian and Wickham. In the case under my care only seven days elapsed from the onset of symptoms until death occurred. In other cases, months and even years may elapse before exitus, as in the case reported by Fordyce. Where the condition has been recognized and treatment instituted, the recovery is apt to be as abrupt as was the onset. The edema rapidly subsiding, the albumin decreasing day by day, associated with the increase in the urinary output and complete recovery occurring within a few weeks. A number of cases are reported in which a trace of albumin was constantly found, consistent with apparently good health.

**Diagnosis.**—The diagnosis of acute parenchymatous nephritis due to syphilis depends on three main factors: (1) the absence of any other cause to account for the disease; (2) the onset coincident or nearly so, with the exanthem; (3) the rapid disappearance of albumin from the urine on the administration of antisyphilitic treatment. To these factors may be added the history of a recent syphilitic infection and the positive Wassermann test. The cases resemble most closely the nephritides of the scarlatinal type. These, however, are seldom associated with so high an albumin content and many authors point to this factor as the most distinguishing characteristic of the disease. According to Munk, the presence of double refractive lipoids occurring as droplets in the urine is of importance in differentiating this type of nephritis from the nonsyphilitic. Stokes reported the presence of such lipoid droplets in his case, but the same finding in nonsyphilitic cases is reported by Stengel and Austin, which seems to indicate that the presence of such lipoids is not pathognomonic of syphilis.

**Prognosis.**—The prognosis in the main is good and may be said to be dependent on the early recognition of the condition as due to syphilis. Where cases have been allowed to progress, however, for weeks and even several months before the diagnosis has been reached, the prognosis for life, although not bad, is doubtful for cure, due to the rapid destruction of the parenchyma.

**Treatment.**—Authors are unanimous in attributing marked beneficial results in acute syphilitic kidney to thorough mercurialization. When it can be definitely established that the renal irritation is not the result of mercury itself this drug should be pushed to the limit. That mercury can well be combined with arsphenamin with marked benefit has been shown by Stokes, and undoubtedly both drugs should be used as soon as the diagnosis has been established.
SYPHILITIC INTERSTITIAL NEPHRITIS (SYPHILITIC CONTRACTED KIDNEY)

The diagnosis of syphilitic cirrhosis of the kidney presents even greater difficulty than the other forms of syphilitic renal disease. This must be apparent when one considers that the pathologic picture, namely, an interstitial nephritis, is in no way different from interstitial nephritis from other causes. Moreover, the clinical and urinary pictures are but little different from those presented by the usual contracted kidney of arteriosclerosis and chronic interstitial nephritis. For the most part both kidneys are involved. There may be, and frequently is, an associated amyloid disease, and as has been noted before, the interstitial variety may be part of a gummous involvement of the kidney tissue. A point of considerable help in the diagnosis, however, is the frequent association of interstitial syphilitic nephritis with other syphilitic visceropathies which are easier of diagnosis.

Symptoms.—As a rule, the onset is insidious, indeed, as in interstitial nephritis, an advanced degree of change may be present before the disease makes itself known to the patient or to the physician. The accidental discovery of albuminuria in routine examinations is often the first clue to the fact that the kidneys are diseased. Headache, dizziness and disturbances in vision may occur, but are less common than in other forms of interstitial nephritis. Neumann has reported retinal hemorrhages in one case, and a marked albuminuric retinitis is reported as occurring in one of Wagner's cases. The urine is usually increased in amount at the outset, and as in other forms of interstitial nephritis, a marked polyuria is frequently found. According to Neumann, this is not so marked, however, as in the nonsyphilitic forms. Later in the course of the disease and with approaching exitus, the urine is markedly diminished in amount. Albumin is found in small amounts only, except in rare cases such as reported by Bartels. The specific gravity is low and the urine rather pale in color. Urea and uric acid are decreased below the normal. Cylindruria is not so marked a symptom as in the acute parenchymatous form, but cases occur perhaps more frequently in the syphilitic type of interstitial nephritis than in other forms. The casts are usually hyaline and occasionally epithelial. With the associated amyloid degeneration, waxy casts are not infrequently found. Dropsy occurs but usually as a later manifestation. The frequency of other visceral changes, particularly those occurring in the liver, undoubtedly accounts for the dropsical condition in a number of cases in which it otherwise might not have occurred. According to Neumann, catarrh of the respiratory

tract is more common in syphilitic interstitial nephritis than in the other forms. This is to be accounted for on the basis of the general syphilitic condition and general lowered resistance rather than on the type of the nephritis. Enlargement of the heart and moderate to advanced arteriosclerosis occur in a majority of the cases and may be said to be confusing rather than helpful points in the diagnosis. The blood pressure is increased depending on the arterial change. Although it is mentioned by some that the blood pressure is less likely to be raised in the syphilitic variety, this point is too relative to be of diagnostic value.

Course.—For the most part the disease becomes manifest many years after infection. The age incidence, however, is appreciably lower than that of the arteriosclerotic types. In ten cases recorded by Welander the ages varied between 28 and 55.

Diagnosis.—In general, it may be said that it is difficult to make a differential diagnosis from other forms of small contracted kidney disease. If anything, the general symptoms such as headache, disturbance of vision and nausea occur later and perhaps to a lesser degree than in the nonsyphilitic varieties. Nephritic symptoms suggesting the type associated with advanced age should always be viewed with suspicion when occurring in a young individual. With due allowance for the Wassermann reaction, a positive test in the presence of urinary symptoms may be viewed as confirmatory, but not conclusive, evidence. Where there are other visceropathies of definite syphilitic nature, such as gummas of the liver or amyloid spleen, the presence of associated renal disease may be accepted as part of the syphilitic process. As Neumann well says, however, all these factors being considered, the diagnosis of chronic interstitial syphilitic nephritis is most often a necropsy, rather than a clinical finding.

Prognosis.—The prognosis compares about equally with that of other forms of chronic interstitial nephritis. Even when early recognized, antisyphilitic treatment can have but little effect in the presence of fibrosis and a destroyed parenchyma. Where improvement has been noted it is no doubt largely due to the treatment of the syphillis and the effect of treatment on remote viscera and on blood vessels. A certain degree of improvement may be looked for in patients in an earlier stage of the disease. After the condition has been well established, however, the course, except for occasional remissions, is progressive. In my clinic two undoubted cases showed marked improvement following arsphenamin treatment, so far as general health was concerned. The patients were able to resume their work, but there was little change in the urinary findings.
GUMMA OF THE KIDNEY

Gummas of the kidney are extremely rare, both as clinical and pathologic findings. They are no doubt more common than is clinically recognized, first, because of the great difficulty of recognizing small gummas within the substance of the kidney, and, second, because gummas may exist without causing any symptoms. The few cases which have been diagnosed clinically have been those with an extraordinary clinical picture giving rise to faulty diagnosis, with correct diagnosis at operation. A few cases have been recognized from the clinical findings in the urine, and these have been verified at the post-mortem examination. Virchow has called attention to the possibility of renal gummas, suggesting that many of the scars seen in old kidneys, supposedly due to hemorrhagic infarcts, might be due to syphilis. The condition was first accurately described by Beer. Following him cases were reported by Wagner, Lancereaux, Paolucci, Axel Key and Israel. The entire subject is extensively reviewed and an additional case reported by Erdheim. 18

The cases are too few to construct from them a typical clinical picture. Erdheim has pointed out, however, that sudden hemorrhage, associated with a large amount of detritus in the urine, is suggestive of the breaking down of a gummatous process. Most of the cases recorded in the literature have been severe cases of syphilis, many of them associated with gummatous involvement of other organs, and particularly with the extensive destruction of bone. The gummatous involvement may be unilateral, occasionally bilateral. In number, the gummas may vary from a single large mass completely destroying the kidney substance, as recorded by Bowlby, to several small nodules, as reported by Key. In Israel's case, in which the kidney was extirpated for tuberculosis, pain and definite tumor formation were noted, with a picture of redness, swelling and pain in the lumbar region. In Paolucci's case there was an associated interstitial nephritis which gave rise to albuminuria and cylindruria. The cases in which the urinary findings led to the diagnosis were those of Seiler and Welander. The former's diagnosis was substantiated at necropsy. Hemorrhage, a great variety of casts, epithelial cells and detritus, in association with other manifestations of syphilis, led to the diagnosis. According to Erdheim, the gummas may be present alone or they may be associated with interstitial nephritis or amyloid disease, in which case a diagnosis of gumma would be manifestly impossible.

Nothing definite can be said of the prognosis of a condition in which the diagnosis is so difficult and in which the cases are so few. The

same holds true for the diagnosis. The one point of interest in this connection is the possible confusion in cases in which the perirenal tissue is involved with extensive renal tuberculosis.

**AMYLOID KIDNEY**

Amyloid disease of the kidney due to syphilis may occur alone but is frequently, as has been noted, a part of gummatous interstitial or acute parenchymatous nephritis. The clinical picture is in no way characteristic of syphilis nor of syphilitic nephritis, except when it is a part of some other syphilitic renal disease. In the latter case, however, the diagnosis is not clinical, but pathologic. Clinical amyloid disease of the kidney is not infrequently a part of syphilitic cachexia, being associated with amyloid degeneration of the spleen and liver. As its clinical course existing in a pure state is in no way different from amyloid disease due to chronic suppurrative processes and long-standing tuberculosis, there is no need to dilate on its clinical phases.

**PAROXYSMAL HEMOGLOBINURIA**

Paroxysmal hemoglobinuria, a rare finding in general, is not infrequently associated with latent syphilitic infection. According to Pliege,19 two thirds of the cases are syphilitic in origin, either acquired or congenital. Ehrlich20 and Schumacher,21 moreover, have reported improvement in cases treated for syphilis. The disease per se has nothing do with renal irritation, and the syphilitic type is in no way different from the nonsyphilitic. It usually occurs after exposure to cold and may be brought about by artificial conditions simulating exposure. In a case under my observation, the hemoglobinuria occurred when the patient's hands and feet were placed in cold water. In this case improvement was noted following treatment, but as the patient passed from observation, we were unable to state whether the improvement was lasting. As in other cases of paroxysmal hemoglobinuria, the syphilitic type is apt to occur more frequently during the winter. The course is chronic, extending over many years, and although influenced by syphilitic treatment, there is apt to be recurrence with perhaps less frequency and intensity than in cases uninfluenced by treatment. The prognosis is somewhat better in the syphilitic than in other types, and as the largest number of cases are of undoubted syphilitic nature, every case of paroxysmal hemoglobinuria should be carefully investigated for the presence of an acquired or congenital syphilis.

SYPHILIS OF THE KIDNEY PELVIS

Aside from the more usual forms of syphilitic nephritis, a few cases are reported in which it would seem from the clinical picture at least, that the pelvis of the kidney alone was involved in the syphilitic process. One such case has been described by Gottfried, and two others by Welz. In the latter's cases, one presented the picture of a perinephritis. In the other, the clinical picture was that of an obstinate pyelitis. Gottfried's case presented the clinical picture of a double sided pyelitis and cystitis with a negative bacteriologic examination. The diagnosis in all three cases was made apparent by the positive complement fixation test, and seemed to be confirmed by the complete recovery with antisypophilic treatment.

SYPHILIS OF THE URETERS

An unusual case of gumma involving the ureter has been described by Hadden. This was the demonstration of a pathologic specimen, the ureter and common iliac artery being involved in a large syphilitic tumor mass with enormous dilatation above the tumor and considerable constriction below it. The kidney was entirely cystic and the case was associated with gummas of the liver and spleen. Clinical syphilis of the ureter alone seems to be unknown as an entity.

SYPHILIS OF THE SUPRARENALS

A scant literature exists with regard to clinical syphilis of the suprarenals. This is the more striking when one considers that next to the liver and spleen, the suprarenal is the most common site of syphilitic involvement in the viscera in cases of congenital syphilis, and that, according to Warthin, sclerosis of the suprarenals with atrophy of the gland is a common finding at postmortem examinations of old syphilis. Spirochetal invasion of the gland cortex has been noted in two cases by Warthin.

Early involvement of the suprarenals, however, is described with clinical manifestations resembling Addison's disease. Other cases are described in which syphilitic involvement of the suprarenal is thought to lead to suprarenal insufficiency without pigmentation, or without the Addisonian syndrome. Among the later manifestations of syphilis of

the suprarenal are described gummas, sclerous suprarenalitis, and amyloid disease. Except for isolated cases of gummas, late involvement may be said to be a pathologic rather than a clinical diagnosis.

EARLY SUPRARENAL SYPHILIS

Cases of evident suprenal syphilis occurring early in the course of the disease, leading to symptoms either of insufficiency, or to a true Addisonian syndrome are described by Fordyce, Jacquet and Sezary,26 Schaffner and Howard,27 Hallopeau and Roy,28 Gaucher and Gougerot,29 and Gordon.30 The latter's case presented the Addisonian syndrome in association with gummatous suprarenalitis. Of the cases mentioned above, that of Jacquet and Sezary presented the typical Addison's syndrome in association with an early secondary syphilis. There was great weakness, asthenia, pains in the extremities, prostration and hyperpigmentation. Under specific treatment the patient improved in all these symptoms, but being advanced in years, died of cerebral hemorrhage. An enormous enlargement of both suprarenals was found with Spirochaeta pallida in great numbers. The case of Schaffner and Howard, as well as those of Hallopeau and Roy, and Gaucher and Gougerot, presented typical Addisonian syndromes, and all recovered on specific treatment. According to Sezary, who has written the most extensive monograph on the subject, the sclerous suprarenalitis may not infrequently cause suprarenal insufficiency and debility. This author believes that all cases of suprarenal insufficiency with the characteristic low blood pressure and debility should be scrutinized carefully for syphilis.

SATURATION IN ROENTGEN THERAPY: ITS ESTIMATION AND MAINTENANCE

PRELIMINARY REPORT *

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Since roentgen rays were first applied to therapeutic uses two decades ago, studies and experimentation have resulted in the development of two widely separated schools concerning their method of application. Briefly, the older method is that by which maximum effects are gradually obtained by the administration of small doses, repeated at short intervals, and continued over a long period of time. This method has long been known as that of "fractional dosage," and the results obtained by it, in the hands of Pusey and others, have deservedly commanded the respect of the profession. Differing radically from the preceding is the more recent method of "massive dosage," by which MacKee and others have obtained results favorably comparable to those of the older method. By this procedure the maximum effect is obtained at once, and the dose is not repeated for an extended time. In spite of this wide divergence in methods, to the results obtained by each is due the respected position which roentgen therapy now enjoys. It is to be seen, however, that in each method the maximum or optimum effect is either preceded or followed by a stage during which the tissue effects are not definitely known. In the older method this occurs during the period before cumulative effects result in an erythema. In the method of massive doses a period of indefinite influence follows the original maximum effect. It may well be that these are periods of questionable influence on the end-result. This is due to our inability to estimate the residual effects of any given dose, and likewise the rate at which such effects are lost. A knowledge of these facts would enable one to reach immediately the maximum or optimum effect and to maintain such effects by properly measured subsequent doses. The elimination of these questionable features has been the stimulus of the following study.

Although many questions in this field remain unanswered, certain facts concerning the biologic effects of the roentgen rays have become

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fairly definitely established, and on the scientific application of these must rest the rationale of their therapeutic usage. It is now generally conceded that the rays have a unique action on the molecular, atomic or even ionic structure of the tissues. Such an effect on their complex protoplasmic makeup gives rise to altered metabolism, altered function or even degeneration and destruction of the individual cell. Clinically, we are accustomed to recognize the gross results of these changes as stimulation, inhibition or erythema (degree of reaction associated with an erythema). Each cell, therefore, which, as the result of our efforts, has absorbed roentgen rays, undergoes a biochemical change, which may produce no appreciable effect, or may result in clinical manifestations as enumerated above, according to the quantity of rays absorbed. Presumably this sequence of stimula-

![Graph](image_url)

**Fig. 1.—Curve of residual effect.** Showing gradual decrease in tissue effects, following one full dose of roentgen ray; also sequence of events occurring in the method of “massive dosage.”

MAINTENANCE OF OPTIMUM TISSUE EFFECT OF ROENTGEN RAYS

The maintenance of the optimum tissue effect must necessarily depend on the rate at which the effects of the rays are lost. Depending on this time rate is the frequency with which exposures may be
repeated, and the quantity that may be administered at each exposure. It seems but logical to assume that tissues exposed to roentgen rays, lose that effect in a constant manner. That the greater the concentration of the biochemical products of irradiation, the higher the velocity of loss, would not only seem to follow naturally, but also apparently is borne out by the observations cited below. If this be true, and if we may assume that the rate of loss varies directly as the concentration of some hypothetical decomposition product, then as this concentration decreases, the velocity of loss will become less in direct ratio. Thus, at such a time as this concentration has decreased by one-half, the velocity of loss will have become less by a similar amount, and so on until the residual effect has become negligible. This rate of loss, theoretically, would represent a logarithmic curve and may be so calculated. Such a curve has been established for many chemical and biologic reactions, which we know as "mass reactions," and if we may be permitted to draw an analogy, the biochemical change resulting from the absorption of roentgen rays by tissue elements, may follow a similar law. Should such an analogy be approached, the decreasing residual effect in exposed tissues might describe such a curve as above suggested, and might well lend itself to such a method of representation and computation. In other words, if our analogy is correct, the curve of residual effect in exposed tissues, should be a logarithmic curve, and with the velocity of recovery in logarithmic functions, and the intervals between exposures in days, as units, we should be able, mathematically, to estimate fairly definitely the residual effect of the rays in the tissues at any given time, and likewise the dosage required, at that time, to return the tissue to the saturation stage.

Interesting, in connection with these speculations, is the recent and creditable work of Bovie. Subjecting the ameba to ultra violet light, among other interesting results, he noted biologic changes wholly comparable to those outlined in the above paragraphs; likewise, that certain cellular elements reacted individually and in a characteristic manner; and finally, his observations seemed to indicate that recovery followed a fairly definite law. He was led to assume the formation of some toxic or inhibitory product in the cell, whose elimination proceeded at a rate governed by this law of mass reactions.

Proceeding on the basis of the above hypothesis, that the decreasing residual effects of the roentgen rays follow a logarithmic curve, a series of experiments were undertaken. Assuming that these residual effects decrease according to such a law, the velocity of this decrease, at any given time, should vary directly with the concentration of the irradiation effects in the tissue at that time. In other words, the greater the amount of ray absorbed, the higher the initial velocity of loss. At such time, therefore, as this concentration has decreased by
one-half, the corresponding time rate of loss shall have decreased by a similar amount, and so on, until the residual effect has become negligible. This condition, we know from experience, is reached somewhere in the neighborhood of the fourteenth day. Our first experiment consisted, therefore, in repeating full doses every fourteen days, the longer and therefore safer interval. The trials were without unfavorable complications. The next experiment consisted in determining after what interval of time, 75 per cent. of the full dose might be repeated. Using this constant dosage and gradually decreasing the time interval, it was found that 75 per cent. of a full dose may be repeated after seven day intervals. In a similar manner was established

![Graph](https://via.placeholder.com/150)

Fig. 2.—Showing sequence of events occurring in method of "fractional dosage." Note gradual rise in value due to cumulative effect of small doses at daily intervals.

the three and a half day interval for repetition of 50 per cent. of the full dose. Obviously these determinations have extended over many months of experimentation and have included several hundred trials of various time and dose relations. From these determinations it has seemed fair to assume that the residual effect present in the tissue after the seven, and three and a half day intervals, are 25 and 50 per cent., respectively, of the original maximum. During the experiments a slight erythema or increase in pigmentation has occasionally occurred, showing that the estimations are very near the true saturation value. With a shorter interval, the same dose has quite regularly produced a
reaction, while with longer intervals, the trials have been entirely free from such complications. Having determined these two points on the curve, with such accuracy as the method allows, a curve was completed, enabling one to select the proper dose for any given interval of time. The curve thus constructed is shown in Figure 1. On the verticals are read the decreasing residual effects in percentages of the hypothetical maximum or saturation dose. Horizontally is read the elapsed time in days. The residual effect on any given day, following a full dose, may be ascertained by tracing the vertical corresponding to that day, upward until it intersects the curve. On the horizontal passing this intersection, is given the residual effect, on that day, in percentage of the hypothetical maximum (100 per cent.). By subtracting this residual amount from 100 per cent., therefore, we learn the percentage of a full dose, required at that time, to return the tissue to saturation (100 per cent.), or any fraction thereof.

In a preceding paragraph we assumed that irradiation of tissues resulted in a biochemical change analogous to chemical and biologic reactions of the mass type. The above experiments, and more recently, the work of Bovie with the ameba, have seemed to substantiate this analogy fairly satisfactorily. In the beginning we were handicapped by the difficulty of accurately determining when an erythema dose had been given. Apparently the amount necessary to produce an erythema differs with a large number of conditions, and it is unquestionably preferable not to assume a too arbitrary or dogmatic attitude concerning the erythema, saturation or optimum amount of roentgen ray for every given set of conditions. Undoubtedly the change resulting from absorption of the rays, is a molecular or ionic change. Furthermore, each type of normal or pathologic tissue cell has a characteristic susceptibility for the rays. Cells might be well classified from our standpoint, therefore, according to their individual radiosensitiveness. Much of our present knowledge of roentgentherapy is based on clinical experience. This applies not only to the inherent variations of cell type, but also to certain obvious and established factors, such as individual idiosyncrasies, susceptibility in different locations and at different ages, variations between exposed and nonexposed body surfaces, the blood vascular system and other constitutional factors not well understood. Each of these factors must influence the amount of ray necessary to produce a given change, and no one empiric method can possibly apply, without modification, to every given set of conditions. It would rather seem that the accurate determination of a law, embracing these several factors, must await the results of long and careful actual titration. We believe, in the present study, that a safe method of such titration has been devised, and future study of the subject in this manner is now contemplated.
In spite of the difficulties mentioned above, in the end it was decided to use the average dose as we have been using it in ordinary practice. With this dose a sufficient number of approximations have been made with results which justify the belief that the hypothesis, as outlined, is essentially true. In order to graphically develop the analogy on which the present study is based, various methods of administration have been charted. Presumably, tissues exposed to the roentgen ray lose those effects in a constant manner. The readings on the charts should apply, therefore, whether the ray is given in small amounts at one, two, or three day intervals, or in massive doses separated by a period of several weeks. All the charts are constructed on the same scale in order to illustrate the principal possible variations of the time and dose relations, and the sequence of events in the various methods.

Fig. 3.—Similar to Figure 2, with the exception that doses were given on alternate days.

**CONSIDERATION OF SEQUENCE OF EVENTS FOLLOWING THE THREE METHODS OF DOSAGE**

Figure 1 represents the sequence of events under the conditions of large doses at long intervals, that is, the massive dose method. The curve represents the gradual decrease in residual irradiation effects. On the verticals is read the residual effect of the dose given in percentages of the hypothetical maximum or erythema dose, and represented by 100 per cent. Horizontally is indicated the elapsed time in days. It may be seen that at the expiration of three and one-half days, the residual effect has been reduced to 50 per cent. After a lapse of a second similar period, a total of seven days, it has been reduced to
25 per cent., or just half the amount present at the beginning of this second three and one half day period. Similarly in ten and one half days it has fallen to 12½ per cent., and at fourteen days to approximately 6½. Thus, it is seen that as the concentration of the irradiation effects decrease, their rate of loss is lessened in direct proportion, and the curve might be continued indefinitely. The residual effect soon reaches a value which is negligible, however, so that it is safe to repeat a full dose after a period of two or three weeks. Particularly interesting is the initial rapid decline of the curve. The period of time, therefore, during which the tissues anywhere nearly maintain the maximum and presumably optimum effect is relatively short. According to our present conception, small amounts of ray stimulate cellular metabolism and division, larger amounts inhibit these processes,

![Graph](image)

Fig. 4.—Sequence of events in methods of present study. Result of administration of 50 per cent. of full dose every three and a half days, and of 75 per cent. of full dose, every seven days, following initial full dose, of 100 per cent. while the maximum dose tolerated is necessary to result in the lethal cell effect. The importance of the latter is well exemplified in the treatment of new growths. At present it is impossible to determine the transition from the destructive to the inhibitory, and thence to the stimulating phases. These are peculiarities of the individual cells and cell types, rather than of the tissue mass as a whole. Yet it would seem from the descent of the above curve that the stage of destructive effect is relatively brief, and that it soon reaches the phase of stimulation where the influence is directly opposed to the effect desired.

Interesting, by contrast, is Figure 2, in which is represented the sequence of events following the older method of small doses at short
intervals. Again the verticals represent percentages, the horizontals, the intervals and the connecting curve, one of logarithmic functions showing the rate of loss. The daily administration of 10, 15, 20 and 25 per cent. of the erythema dose are shown. It may be seen that the daily administration of 25 per cent. of the full erythema dose leads, in the course of six days, to 105 per cent., and if further continued, would lead to a decided overdose. This gradual increase in effects and final appearance of an erythema, we attribute to the so-called "cumulative effect." If, however, only 10 per cent. is given daily, the curve does not rise above 60 per cent., and one never reaches the optimum or maximum dose. The curves of 15 and 20 per cent. fall, obviously, between these. Figure 3 simply illustrates the effect of 20 and 25 per cent. given at two day intervals, with a corresponding more gradual rise, and therefore later appearance of an erythema. Regardless of the fraction of the full dose chosen, therefore, there is always a period of incomplete saturation of the tissues, as well as a succeeding period of falling values. These periods are open to questions similar to those presented in the discussion of Figure 1. It is at least suggestive that these periods of incomplete saturation represent a loss of time and effort. They may also prove harmful by the stimulation of the pathologic cells which they seek to destroy, or through the development of a resistance to the effects of irradiation.
Figure 4 represents the method of the present study. It strives to reach immediately the maximum dosage and to maintain maximum effects by properly timed subsequent irradiations. In this way are avoided the stages of questionable influence preceding or following the maximum effect in the preceding methods. This is illustrated in the chart. An initial maximum dose (100 per cent.) is administered. After three and a half days the curve of residual effect has fallen to 50 per cent., a point at which optimum effects are questionable. At this time, therefore, 50 per cent. of the original dose is repeated, thereby returning the tissues to the saturation stage, as indicated in the chart. Practically, it has not been safe to repeat at shorter intervals, due to the dangers of "accumulative effect." Obviously, these might result from an inaccurate estimation of individual susceptibility or the part irradiated, before becoming clinically evident by the appearance of an erythema. Experience has shown that 50 per cent. of a full dose may be repeated after a three and a half day interval as represented in the chart. Trials, described above, with longer and shorter intervals have shown this as very near the true average value. Practically most of the work here is done on the basis of the three and a half day interval.

Fig. 6.—This figure illustrates the flexibility of the method. The patient required continued intensive therapy, yet could not return at regular intervals. The initial dose was our ordinary full dose, 100 per cent. The patient returned five days later. By consulting Chart 1 we found the residual effect at this time is approximately 37 per cent. The patient received the amount required to return the tissue to saturation. The next interval was seven days, and again the proper percentage of the original dose was given. The last interval was three and a half days when, due to clinical improvement, the patient was saturated for the last time. Thus, after each interval, we were able to estimate the residual effect and give the patient the benefit of the maximum dosage, with safety. Likewise the treatment, at any time, might have been continued in another more accessible laboratory.
By the initial full dose, the preceding stage of questionable effects and the long period of time of the method of fractional dosage, are presumably avoided. Likewise, by subsequent irradiations at three and one half day intervals, the phases of questionable influence following a single large exposure are done away with. And finally, we are at all times able to estimate accurately the residual effects in the tissue and the amount of rays necessary to return the tissue to the maximum effect.

The method, however, is not at all limited to the three and a half day interval as described above. It is practiced when possible because in this way maximum effects are more continuously maintained. Not infrequently, however, due to conditions over which one has no control, irregular intervals are unavoidable. Here, also, the method is equally applicable. So far as experimentals have gone, this law of residual loss is constant, and knowing the previous dosage and elapsed time, we are able always to return the tissue to the desired stage.

Fig. 7.—In this figure is represented the treatment of a series of cases, in which maximum effects were not required. The initial dose was one-half the full dose, and at weekly intervals the patients returned to have the effects reinforced; in other words, continued mild stimulation.

CONCLUSION

The present study is an attempt to establish an analogy between biochemical mass reactions and the changes produced in tissues by absorption of the roentgen rays. To biochemical mass reactions accurate mathematical estimations have been applied. At present a rigid demonstration with the tissue effects of roentgen rays is impossible because of the inherent difficulties of this estimation. In the present study, at least, they have apparently lent themselves to similar methods of computation. Since the beginning of their therapeutic usage, application of the roentgen rays has been based largely on the knowledge culled from years of clinical experience rather than on any
exact or mathematical basis. The advantages of such a method are obvious:

1. Accuracy with which desired irradiation effects may be obtained and continued.

2. Avoidance of stages of incomplete saturation, perhaps of questionable influence by properly measured doses at proper intervals.

3. Ability to duplicate accurately effects after various time intervals, even by different operators.

4. Constant protection of patients from the results of improper time and dose relations.

The method presented herein is submitted as a preliminary to further studies directed toward that end.

For constant help and invaluable suggestions throughout this work and likewise for the departmental facilities placed at my disposal, I would express my appreciation to Prof. James G. Van Zwaluwenburg of the Department of Roentgenology. For many helpful criticisms and every possible encouragement, I am indebted, as always, to my chief, Prof. Udo J. Wile.
TREATMENT OF CHANCROID WITH THE HIGH FREQUENCY VACUUM ELECTRODE AND COPPER SULPHATE SOLUTION*

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PHILADELPHIA

It is a well recognized fact that the treatment of chancroids by the application of caustics, including the thermocautery and antiseptics, has been notoriously unsatisfactory. This is substantiated by the evidence provided by Martin, Thomas and Moorehead, who record no less than twelve protean substances, in addition to the actual cautery, which have been recommended from time to time as being therapeutically efficient.

The failure of these various therapeutic agents is due to the fact that the Ducrey-Unna bacillus and the other pathogenic organisms always present lie deeply embedded in the tissues and out of reach of the destructive and inhibiting action of the medicaments.

Therefore, to bring about healing, it is necessary to provide some method whereby the germicide will penetrate deeply into the tissues, and come into actual contact with the infecting agent. This can be most efficiently accomplished by the high frequency spark, employing the glass vacuum electrode and the application of 25 per cent. copper sulphate solution to the ulcer.

My attention was first drawn to this method of treatment by the presentation of Robbins and Seabury 1 before the Section on Genito-Urinary Diseases of the American Medical Association, at its meeting in New York, June, 1917.

In making a brief survey of the literature, I find but scant reference to this method of treatment. The work of Robbins and Seabury, however, had been antedated by Jersild 2 of Copenhagen, who published the results of his investigations in a Danish journal. A translation has not been obtained.

Eberhart 3 gives the treatment of chancroid by the high frequency spark without copper sulphate, and states that it is superior to acid cauterization.

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* Read before the Philadelphia Genito-Urinary Society. December, 1918.
A method of treatment to be successfully applied to any pathologic change in function or structure, must be based on a correct diagnosis. On this basis the distinguishing features between chancroid and chancre should be clearly borne in mind, and no absolute conclusion should be drawn until after several successive dark field illumination tests have been made; and, further, if these tests should prove negative in reference to the presence of Spirochaeta pallida. Wassermann examinations should be made over a period of several weeks, and the patient kept under observation even after the treatment of chancroid has been instituted. Of the series herein reported, two cases developed positive Wassermann reactions later, notwithstanding the fact that two dark field examinations were negative.

The writer is in accord with the opinion expressed by the committee appointed by the Surgeon-General of the United States Army to outline the best course of treatment applicable to the enlisted men, namely, "that every venereal sore should be regarded as potentially syphilitic until it is proven to be otherwise."

The treatment outlined by Robbins and Seabury, with slight modification, is as follows. A small pledget of cotton is made wet with 10 to 20 per cent. solution of cocain and applied to each lesion. After four or five minutes, the field is carefully cleansed with soap and water and dried. Each lesion is then thoroughly wiped out with a cotton wound applicator until bleeding ensues. This is arrested by sponging, and when only serum exudes from the wound, this is collected for examination by dark field or stain, as may be the choice of the operator.

A 25 per cent. solution of copper sulphate in distilled water is now applied to the sore, and the short high frequency spark from a rather fine-pointed vacuum electrode is applied directly to the sore for from one to three minutes, depending on the extent of the ulceration. Especial care is exercised in carrying the point of the electrode well down into any fissure or undermined edge, and the area of application should extend over the edge of the sore about one sixteenth of an inch into the doubtfully healthy area.

The current is not turned off until every crack and crevice has been thoroughly treated and the surface of the sore is changed to a dark greenish gray, otherwise any small untreated area may reinfect the entire granulated surface. It is then wiped dry and an antiseptic powder is lightly applied to the entire mucous surface of the preputial cavity. If the sore is exposed, it should be covered with a thick, moist dressing. For this any very dilute antiseptic solution may be used, such as mercurophen 1:16,000, or 1:20,000 mercuric chloride solution, or sterile water. This dressing should be changed once or twice daily,
and must be kept moist, to prevent it from becoming adherent. At least once daily, the penis should be immersed in hot water for a period of from 15 to 20 minutes.

The patient is instructed to return in two days, and, if the work has been carefully done, the ulcer will present a perfectly healthy granulation that will go on to complete healing in a few days. In other words, an infectious ulcer is converted into a simple one.

If the sore does not look clean, the application is repeated at the second visit. The patient returns each second day. If the original sore was large, or if a small sore does not seem to be healing rapidly, apply, at each visit, either a 10 per cent. copper sulphate or a 5 per cent. silver nitrate solution. After sterilization of the ulcer, the next step is to apply a remedy to hasten dermatization, or healing. The following is efficacious in promoting this process, and should be applied once daily by the patient:

Silver nitrate ........................................ 1 dram
Spirit of nitrous ether ............................... 1 dram
Distilled water ........................................ 1 ounce

Do not hesitate to repeat the original cauterization at any time the chancroidal infection may appear to be not completely eliminated.

The complete success of this, as with any other method, is dependent on careful, thorough work. There is more danger of too little cauterization than of too much; and thorough cleansing at the time the sore is destroyed, must not be forgotten.

Rationale of Treatment: Some claim the high frequency current drives the copper into the tissues by molecular bombardment.

The vacuum tube gives off heat. Ruggles of Brooklyn found that the Ducrey-Unna bacillus has low resisting power, and is killed at a temperature of 120 F. The chemical rays produce a hyperemia, with the resultant benefit on cell nutrition. Oxygen (a specific for balanitis gangrenosa) is liberated. It is germicidal, and has a peculiar property to attack pathologic tissue.

This paper is based on a study of fifty-two cases. Of these, four developed buboes, two of which resolved and two suppurated. Thirty-nine healed within two weeks, seven in three weeks, and six in from three to five weeks. No ulcer showed any tendency to spread after treatment. The cases just detailed may well be compared with sixty-three cases of chancroids treated according to older methods, including treatment with: argyrol, calomel, black wash, dusting powder, phenol, iodin, iodoform, etc. Twenty-eight of these developed buboes, and had come under observation six months before. The reason for not having a larger percentage of early cures is undoubtedly due to irregu-

larity of attendance on the part of the patient. This applies especially
to dispensary practice. Patients feel so greatly relieved after the first treatment that they become careless, and it is therefore difficult to follow up the case, to give justice to treatment, and to obtain a satisfactory report. This applies more especially to the colored race. Our observations show that venereal sores attain a large size in this race owing to lack of early treatment.

SUMMARY

In conclusion, the advantages of the treatment of chancroid with the high frequency vacuum electrode and sulphate solution may be summarized as follows:

1. Bubo occurs in a small number of cases, the percentage generally given being 30.5.
2. Healing by this method of treatment occurs more rapidly than by any other.
3. An intensely painful ulcer is converted into a relatively painless one.
4. Economically, therefore, the patient is benefited.
5. The treatment is simple.
6. There is practically no reaction after treatment.
7. This treatment may be applied at any stage in the disease.

Many of the cases which form part of this study are from the clinic of Prof. B. A. Thomas. The author hereby wishes to express his acknowledgement for this courtesy.

Medical Arts Building.

4. Since writing this paper, ninety cases in addition to the number mentioned in the report have been treated with equal success.
A CASE OF ACQUIRED CIRCUMSCRIBED HYPER-HIDROSIS

WILLIAM ALLEN PUSEY, M.D.

CHICAGO

A Jewish girl, aged 22, presented herself, with what I thought was a large wet dressing around her right wrist. On removing it, I found beneath an entirely intact skin. To my surprise I then learned that the gauze dressing, an inch or more thick, was wet solely with perspiration. The sweating area was on the extensor surface of the wrist and on the back of the hand toward the ulnar side. As may be seen in the accompanying illustration this area was from 2 1/2 to 3 inches wide and 5 inches long. It was sharply defined and its location did not vary. The skin was slightly pinkish and sodden. Sensation in it was diminished, but it was otherwise normal. The sweating occurred in almost constantly repeated attacks. A few seconds after the dressing was taken off and the surface wiped dry, minute beads of perspiration began to appear, and in a few minutes, the surface was covered by large drops of perspiration which were dropping into a puddle on the floor. In a few minutes more, the surface began to dry, and within ten or fifteen minutes, the sweating had ceased. At subsequent examinations, there were the same intermissions. The surface sweat profusely for a while and then the sweating ceased, to begin again after from five minutes to half an hour.

The patient said that she could start the sweating by vigorously twisting the wrist. Neither this nor rubbing or slapping the surface seemed to influence the sweating under my examinations. Other methods of exciting the sweating in the case were not tried.

The disturbance began eleven years ago, when the patient was a child 11 years old. The original spot was about the size of a silver dollar. At times the trouble disappears, and she has had periods of freedom from it of from one week to five or six months' duration. There is no appreciable variation in it in the different seasons. The sweating is more profuse during the day than during the night, and the patient thinks it is increased by warmth.

The patient is a well nourished, well developed young woman. She has had the common diseases of childhood except scarlet fever. Two and a half years ago she had appendicitis with operation; but beyond these she has had no illnesses. She is of fair intelligence, but is evidently not of a stable nervous type. She shows total anesthesia of the conjunctiva and pharynx, but gives no history of hysterical attacks.
She was given a 25 per cent. solution of aluminum chlorid and was told to use this cautiously over the affected area. This was done because of the remarkable property of aluminum chlorid and zinc chlorid in checking localized sweating, but it was not expected that it would have any effect in this case. Surprising to relate, the sweating was checked in the course of a week or ten days, and there has been no unusual sweating of this area now for two months. Whether this improvement is one of the intermissions that the case has shown in the past, or whether it is due to the aluminum chlorid solution, or to the subjective effect of impressing the patient by doing something I do not know, but I am inclined to think the aluminum chlorid has produced the result.
**Editorial**

**THE NEED FOR THE STUDY OF RINGWORM IN AMERICA**

It is ten years since Sabouraud published his magnificent work on ringworm, and yet Hartzell says that in respect to this disease all except dermatologists are still groping in Cimmerian darkness. Perhaps Hartzell's statement is rather optimistic, for some, instead of groping, seem to be firmly planted with their backs toward the light. A little groping would enable them to approach sufficiently near the sources of illumination for comparatively clear vision. Public health officials might be cited as an example of this lack of illumination. By approaching the light a little they might see that the most frequent variety of ringworm recognized by them — ringworm of the scalp in children — is a disease that can be cured promptly, and that the loss of time to the affected child, and the danger of its transmission to others, make it a disease worthy of serious attention. A slightly closer approach to the light might lead them to discard the obsolete methods of treatment now in use and might perhaps incline them to provide roentgen-ray treatment in the larger communities. The light of midday has been shining on this treatment for sixteen years, and yet the treatment is rarely suggested even to parents who are able to afford it.

There is, however, a good deal of obscurity surrounding many phases of the ringworm problem in spite of recent progress. Beginning with the investigations of Marie Kaufman-Wolf in 1914 on ringworm of the hands and feet, a new interest was aroused in the subject, and in this country Ormsby and Mitchell, White, Hartzell and others have added much to our knowledge of the previously unrecognized or but infrequently recognized forms of the disease. Their work and that of foreign investigators has opened a large field for study.

One of the difficulties that has stood in the way of more rapid progress is the difficulty of the identification of the particular variety of fungus in the different cases. This is partly due to the fact that different investigators have employed mediums of varying composition for their culture. It is a well established fact that the same species always takes a characteristic appearance on a solid medium of constant constituents, and that such a culture permits differentiation of the different species, while on mediums of only slightly different constituents there is a wide variation in cultural characteristics.

Another difficulty in the identification is that in this country we have nowhere a large collection of living cultures of different species. Collections of cultures of living bacteria are numerous throughout the
country, the greatest, perhaps, being that of the Museum of Living Bacteria maintained at the American Museum of Natural History in New York. It would greatly facilitate study if some dermatologist could be persuaded to undertake the task of building up a collection of the various species of pathogenic fungi found here. With the cooperation of different workers in sending in cultures or scrapings from patients in widely separated districts, valuable material might be amassed and competent mycologists developed. Sabouraud’s mediums should be adopted without change as the standard cultures for the present, as the cultural characteristics of a great many varieties are already established on his mediums. When this preliminary step has been taken there will be a better opportunity for approaching some of the other problems, of which there are many.

So far as it has gone, Sabouraud’s work may be regarded as final for this phase of the subject. Yet in our country it is probably a fact that there are not a dozen dermatologists who know his mediums except by name. After years of experimentation he reached a combination against which the cultural properties of fungi could be standardized. Nevertheless, ignorant of the path this French mycologist journeyed, there are investigators in our country uselessly retracing his steps. There is always a type of scientific dunderheadedness of which this is an example.

Sabouraud’s mediums should be employed until we have a standard collection of indigenous flora, and perpetuated, perhaps, as has been done in France. Then, for it is not easy to import the ingredients, we may be able to develop standard mediums of our own, and identify the variations of fungus growth on them as against our own. Having accomplished this we shall be able to proceed.

The next step should be the study of the biologic properties of different species grown on the various sugars, peptones and the like, in varying combinations. With this idea in mind, accurate data should be kept, not only of each fungus, but of its clinical source as well; namely, a photograph of the lesion, the aspect of the hair or nails, the position of the spores and mycelium in the follicle, hair or scales, the age, sex, race and general condition of the patient.

In Europe, where this kind of work has been done, the above is axiomatic. In this country, an excellent bacteriologist, holding the chair in a large school, stated that morphologic studies in this field were nonsense. A former assistant of his is now, after an academic bacteriologic training, a year in the army and four months in dermatology, posing, not only as a dermatologist, but as a mycologist. He knows nothing of mycology either clinically or in the laboratory sense. He is growing fungi on all sorts of mediums long since abandoned by Sabouraud. He does not even collect his material. An ignorant tech-
nician supervises this. She takes hairs and scales ad libitum from patients and drops them into culture tubes. In other words, nothing is known by this investigator either of the clinical or technical sides of the subject, no records are kept of the cases, and yet undoubtedly the work will be perpetuated in writing. Its value will be obvious, but no one will know the facts concerning this spurious coin when it is circulated, and it may pass as sound.

After the work outlined has been done, it will be possible to begin serious studies in immunology, allergy, epidemiology and biotherapy. Up to the present, the light in Erebus is dazzling compared with that today existing in the cavernous ignorance of this brand of mycology among us.

J. L.
Correspondence

"DERMATOLOGIC MISNOMERS"

To the Editor:—In an interesting article in the February number of this journal Dr. Moses Scholz discusses dermatologic misnomers. I agree with him as to the impropriety of many of these names and share his dislike for them, but it is always difficult and often inadvisable to change a name in common use however bad it may be. Erasmus Wilson, a classical scholar, gave excellent reasons for a change of certain dermatologic names, but the change only produced confusion. Jonathan Hutchinson introduced a few new names which proved too objectionable to become generally adopted. I, myself, must confess to having urged certain changes of name for which I am now sorry, but I am glad of a partial success in substituting trichophytosis for tinea trichophytina, chromophytosis for tinea or pityriasis versicolor (which Dr. Scholz would call tinea furfuracea microsporina), fibrosa for molluscum fibrosum, and nodular syphilid for the old term tuberculare syphilid. I still contend that the shorter and perhaps more meaningless a name is, the better. When a name embodies a partial description of a disease it is very apt to be too long and cumbersome and when our views of the disease undergo a change, as often happens, the name too must be remodeled. The name yaws fulfills the purpose of indicating a disease that few of us have seen but of which we have a definite mental picture. The name means nothing to us, and if we knew its origin and significance we might deem it highly inappropriate. A meaningless name never becomes a misnomer.

An attempt to change some of the names mentioned would only result in useless argumentation. As to the name erythema, it means more than hyperemia. It implies simple hyperemia in some cases and exudation in others. Dr. Scholz asserts that no condition showing exudation can be termed erythema. As a matter of fact, it not only can be so termed but has been so termed by great and good dermatologists of the past and present. When the skin becomes swollen and hard and presents certain clinical features the name erythema induratum, first applied to the condition by Bazin and now well established, very few would regard as a "most glaring dermatologic misnomer."

If erythema nodulare is an "equally untenable name," why does Dr. Scholz use it? I never heard of it before and do not find it in the index of recent dermatologic textbooks. The question is asked "For want of a better name why not call erythema multiforme dermatosis multiformis?" One answer is easy: Because the name suggested is ungrammatical. Dermatosis is a feminine noun and its adjective should be multiformis. Other valid answers might be given and a great difference of opinion elicited as to the propriety of changing many of these alleged misnomers.

The name eczema, which it is claimed should be discarded or changed to dermatitis, has now been in use for over two thousand years, and I venture to predict that this "time honored but vague term" will remain in use for centuries after Dr. Scholz and I have lost our interest in dermatology. It has always meant something, and it would be better now to strictly define its meaning than to change it for another name which would as readily be misunderstood. Our vague conception of eczema is our own fault and not the fault of the name.
And now to change the subject, let me say that far more regrettable than misnomers is the careless manner in which many of us express our dermatologic ideas. Would that every contributor to the Archives might read Duhring and Morrow carefully, not only to become familiar with their views but to acquire, if possible, their clear, concise and beautiful diction.

We are all prone to write hastily and some of us seem disposed to bury our ideas in a mass of high sounding verbiage which may impress but does not enlighten the reader. A blue pencil cannot be used too freely in going over manuscript intended for the printer. For example, Dr. Scholz says: "The very fact of redundancy and superabundance of dermatological nomenclature so often commented on and lamented about, can be utilized for the purpose of selection of more correct and better fitting names." He might have said that the oft lamented abundance of dermatologic names can be utilized in selecting those most fitting and have expressed the idea more clearly and in just half the number of words. In mentioning the claim that dermatitis is local and eczema of systemic origin, Dr. Scholz says: "The mere difference of etiology could warrant only a separation of idiopathic eczemas from specific eczemas and idiopathic dermatitides from specific dermatitides, but it does not justify the creation of two separate clinical entities to express merely the difference of etiology in otherwise identical conditions." This and other sentences written with fewer and simpler words would not need to be read twice in order to grasp the idea.

We often rail at the absurdity of legal phraseology. I have just signed a lease which I read with little understanding of some words but assumed it to be highly proper. In writing other than legal documents most lawyers, I imagine, do not use all of the impressive words at their command as many doctors seem impelled to do. I am unfamiliar with legal magazines, but this week I ran across the December number of Bench and Bar, read an article on "The Actual Trial of Cases" by Henry Wollman, became intensely interested in a subject quite apart from my habit of thought and what is more, I understood every sentence and every word. I cannot truthfully say this of most of the medical articles which I read. I wish many doctors might read this legal article or lecture, so plainly written and so interesting to a layman, and then compare it with our average medical literature.

Uncalled for criticism is a dangerous instrument and often does more harm than good, but since I am on the verge of becoming an old man who has given up his hope of revolutionizing dermatology and am well aware that in my contributions to its literature during the past forty years or more the heel of Achilles can be found exposed in very many places, I sincerely trust that Dr. Scholz will not take offense at what is merely intended as a kindly suggestion to him and other younger colleagues.

George Henry Fox, New York.

Comment.—In reply to Dr. Scholz' article under the title of Dermatological Misnomers, in the February Archives, in which he criticizes, and by implication would change many old and well established dermatologic names, I would like to quote the following sentences from Barrett Wendell in his work on English Composition:

In English, as in every other language, the final test of what words we may use is inevitably the usage of those who speak and write it; the test of what words we should use is the usage of those who speak and write it best, in other words, good use. . . .

Common consent, general practice, is what makes the . . . alphabet signify anything. In this fact lies the . . . hopelessness of the efforts now and then made by . . . dogmatists, not possessed of despotic authority, to reform spelling. [With equal truth we
might substitute nomenclature here for spelling.—Ed.] . . . The question in a given instance is not what ought to be the case, but what is. And to the state of things which enables us to decide in spelling, as in other fashions, what the case is at any given moment, we give, for convenience sake, the name "Good Use." . . .

Dictionaries and grammars [or critics in nomenclature.—Ed.] to be sure may codify what exists at any given moment. Regarded as codes, they are invaluable; but at best they are codes of common law, not legislative enactments. The only sanction behind them is that of practice, of usage.

He is speaking of good usage as it applies to words in general literature. The rules, because they are based on fundamental biologic habits of mankind, apply to good usage of technical words in whatever profession, particularly if it is an old profession like medicine. Words of long established usage have grown so deeply into literature and into the minds of men that they cannot be uprooted. This is accepted as one of the fixed principles of literature in general. It would be well if we familiarized ourselves with these principles and kept them in mind when we feel inclined to make quixotic attacks on dermatologic nomenclature.—Ed.]
Abstracts from Current Literature

THE LANCET

A CASE OF CONGENITAL MULTIPLE SARCOMATOSIS. J. A. Percival. 197:14 (July 5) 1919.

This case report is of interest because of its rarity and the wide dissemination of secondary growths. When first seen by the author, the patient was two weeks old. Multiple rounded and nodulated tumors were scattered throughout the body. The tumors were present at birth and varied in size and consistency. The child lived one month; microscopic examination of the tumors revealed small round-celled sarcoma.

X-RAY THERAPY. Robert Knox. 197:183 (Aug. 2) 1919.

The writer endeavors to give a summary of roentgen-ray therapeutics and describes the technic for a number of diseases that benefit from radiation treatment. He describes in detail the effect of radiations on the living cell in both normal and diseased tissue. If a particular cell or group of cells be exposed to a beam of radiations from a roentgen-ray tube certain events may follow: (1) the cell may be stimulated; (2) its activities may be inhibited; (3) the cell may be destroyed.

Both the direct and indirect effects of radiation are discussed to some extent. The question of dosage and of technic in different disorders is described. A few selected case reports are given.

THE PRIMARY TOXIC EFFECT OF NEOSALVARSAN. K. Petren. 197:244 (Aug. 9) 1919.

In reference to the symptoms that can be observed after an injection of arsphenamin, the writer states that it is generally recognized that they may be a consequence of the biologic interaction between the organism and the microorganism of syphilis—as the experience of the effects of arsphenamin has almost entirely been obtained from observations on patients suffering from syphilis. Many have accepted the suggestion that these symptoms from the nervous system are largely due to a "toxic storm," that is to say, they suppose a large number of spirochetes have been suddenly killed through the effects of arsphenamin, which has resulted in a large amount of toxin suddenly becoming free in the blood.

In order to prove whether or not this suggestion had sufficient grounds to be accepted as fact, the writer gave neo-arsphenamin to 140 patients with influenza pneumonia with the following conclusions: The toxic effect after the injection of arsphenamin was quite monosymptomatic, vomiting during the first twenty-four hours being the only unfavorable symptom, and that the only toxic effect—when there was any—followed fixed laws, as its occurrence was limited to a fixed period after the injection and was also to a certain degree dependent on the weight of the person that had received the injection. When we take these circumstances into consideration it seems unnecessary to discuss the question where the injected arsphenamin exercises its effects, as it
is quite manifest that a morbid phenomenon of this regular character and of this short duration cannot be a consequence of a local effect exercised on the stomach wall, but must be the effect of the poison on the center of vomiting—the bulb.


This is the report of a case in which there was associated a severe gonorrheal arthritis. The condition promptly disappeared under vaccine treatment.

HYPERKERATOSIS OF HAIR FOLLICLES IN SCURVY. H. Wiltshire 197:564 (Sept. 27) 1919.

In dealing with about 3,000 cases of scurvy that occurred among Serbian troops, Wiltshire noticed that a condition of hyperkeratosis of the hair follicles was commonly present, in addition to those skin changes which are generally described as proper to this disease. The proportion of cases showing follicular hyperkeratosis amounted to no less than 87 per cent. The follicles which showed this change were usually limited to the lower extremities, the favorite sites being the front and inner aspects of the thighs and the upper part of the legs. When they were numerous in these regions—and in some instances nearly every follicle was affected—those of the pubic hairs were often affected as well (20 per cent. of the cases), and sometimes those of the backs of the wrists and forearms (2.5 per cent.).

The author concludes that: 1. Follicular hyperkeratosis occurs in the vast majority of cases of clinical scurvy. 2. In a large proportion of cases it formed the first recognizable sign of a scorbatic tendency and would have enabled a diagnosis to be made before the onset of other symptoms. 3. It is similar in appearance to the hyperkeratosis of follicles which occur in other conditions due to malnutrition. 4. It appears to be due to altered nutrition of the follicle produced by simple deficiency of antiscorbutic vitamin.

DYSHIDROSIS: ITS PARASITIC NATURE. J. Darier 197:578 (Sept. 27) 1919.

The author discusses in detail the vesico-bullous and squamous eruptions of the hands and feet. The important points in the differential diagnosis of eczema, epidermophytosis and palmar and plantar trichophytosis are given.

His conclusions are: T. Fox's dyshidrosis or Hutchinson's pompholyx is not a distinct disease; what has been called by that name is only a clinical picture, a syndrome that may be called dyshidrosiform. When they are not artificial, professional, or medicamental dermatitis, the dyshidrosiform eruptions are usually and probably always, of mycotic nature, and due to the epidermophyton; careful and sometimes very laborious microscopic examination will provide the proof. They must be treated as such. If we want to retain the term dyshidrosis it must not be considered as giving a precise diagnosis, but must be completed by some qualifying term as done, for example, with the term sycosis.

Therefore, when one is faced with a dyshidrosiform eruption, the problem is to decide between the following two diagnoses: (1) parasitic epidermophytotic dyshidrosis; (2) nonparasitic dyshidrosis or occupational dyshidrosiform dermatitis.
THE CONTAGIOUSNESS OF FAVUS IN MAN. R. SABOURAUD 197: 581 (Sept. 27) 1919.

The problem of the contagiousness of human favus has presented itself since the disorder was first described; and its contagious character has been as much in doubt since, as before the discovery of the parasite.

The usual type is feebly contagious and the writer places importance on poverty, filth, promiscuousness and destitution as factors. In certain localities the same percentage of cases exists one generation after another, possibly only one or two members of the family having the disorder; but as the disease, untreated, may last a life-time, ample opportunity is given for the younger generation to be infected. Sabouraud states that the favus patient who is not treated for the disease will die a favus patient. He describes the rare occurrence of a very contagious type of the disease: A 6 to 12 years old child has a crust adhering to the scalp and refusing to disappear. This crust—gray, flat, as thin as the nail, very adherent, cannot be moved to and fro on the skin. The color is ash-gray, recalling the color of wasp's nests in the woods. It is from 0.5 to 1 mm. thick. When removed with the curet, the skin is red, moist and bleeding.

Culture reveals the common Achorion schonleinii, without any peculiarity to explain the strange behavior of this clinical form. The crust forms rapidly and increases visibly from day to day. It is a squamous favus at the outset, later rock crusts forming. Sabouraud states that if he had not seen the condition himself, he would be tempted to doubt the existence of such a type, which is of special interest because it is very contagious among children.

THE TREATMENT OF LUPUS VULGARIS. ROBERT W. MACKENNA 197: 917 (Nov. 22) 1919.

Good judgment is necessary in selecting the opportune moment for energetic treatment. If the lesion is very active, soothing lotions are advised; after the active manifestations subside, energetic measures are carried out. The author discusses: excision, chemical agents, curettage and scarification, refrigeration, ionization, electrocautery, electrotherapeutics, tuberculin and arsphenamin treatment.

DIATHERMY. NORMASON PATTERTON 197: 1020 (Dec. 6) 1919.

Although this method of destroying malignant growths has been employed since 1910, Patterson asserts it has not been given the recognition it deserves. He believes that it should be the method of choice in cancer of the buccopharyngeal cavity. The unpopularity of the method is probably due, to some extent at least, to the costly and cumbersome apparatus required. A rather detailed description of the apparatus and technic is given. The advantages of diathermy over cutting methods are: (1) bloodlessness; (2) total destruction of the tissues in the neighborhood of the terminal and the impossibility of cell implantation; (3) sterilization of the parts; (4) destruction of structures some distance from the electrode; (5) sealing up of vascular structures and prevention of the entrance of bacteria, toxins or cells; (6) less pronounced shock; (7) a firmer and more dense scar, acting as a barrier to the spreading of the disease; (8) preferableness in the treatment of feeble and very old patients.
THE CURE OF MULTIPLE WARTS ON THE FACE. Charles H. Shaw. BRIT. MED. J. 2:11 (July 5) 1919.

This is the report of a case in which the patient had a large number of warts of the verruca plana juvenilis type, situated on the forehead and scalp. The trouble had been present for eleven years and had resisted various kinds of local preparations prescribed by dermatologists. A saturated alcoholic solution of salicylic acid was used, as recommended by Stelwagon; on the following day the warts were removed by a sharp flat steel instrument beveled on one side only. The salicylic acid solution was applied to the bleeding points two or three times on the same day. The results were entirely satisfactory. The method is useless in treating the larger warts. Ionization with magnesium sulphate had failed to remove the lesions.

THE ACTION OF SYPHILIS ON NATIVE COMPLEMENT. B. H. Shaw. 2:105 (July 26) 1919.

Syphilitic serum shows a diminution of complementary activity when incubated with sensitized corpuscles, as compared with normal serum. The serum also varies in its complementary power at different stages of the disease. The author gives a short description of the experiments from which his conclusions were drawn. The paper should be of special interest to serologists who utilize the normal complement in their serodiagnostic work.


The course of novarsenobillon given in all cases was the same, being the regular prescribed army course of treatment. This consisted of seven injections of novarsenobillon in increasing dosage from 0.45 gm. to 0.75 gm. and seven injections of mercury extending over a period of fifty-eight days. Five hundred and eleven patients were treated. The intramuscular cases gave 95 per cent. negative Wassermann reactions and the intravenous 88.5 per cent. negative. The great objection to the intramuscular method was the pain produced by the injection. All of the early primary cases gave a negative Wassermann reaction with both methods. In the late secondary cases 86 per cent. were negative. In tertiary and congenital cases, intravenous medication gave a slightly higher percentage of negative Wassermann reactions than the intramuscular method. In both methods, however, after a single course of treatment, a little over 50 per cent. were negative. In the entire series, the intramuscular method gave the largest percentage of negative reactions after one course of treatment.

CUTANEOUS ANTHRAX. Ernest F. Neve. 2:559 (Nov. 1) 1919.

The treatment adopted by Neve in these cases consists of thorough cauterization with a red hot button cautery. He regards excision and incisions as almost equally dangerous, tending as they do to open up fresh planes of communication, and thereby promote systemic infection. The natural local reaction
to the pathogenic irritant is very strong. There is most vigorous leukocytosis. As a rule, the blood is not infected. The cauterity, while destroying the virus, also increases the local reaction. Clinically, Neve's records point to this as the most satisfactory method of local treatment. Sclavo's serum has been recommended. Most of these patients, however, when they come under treatment, must have already produced their own antitoxins; those who have not and are almost or quite moribund are hopeless. Seven of a series of seventy-five cases terminated fatally, giving a mortality of 9.3 per cent.

HERPES ZOSTER OF THE GLOSso-PHARYNGEAL NERVE.
C. T. Neve. 2:630 (Nov. 15) 1919.

This is an interesting case report in which the important symptoms were (1) fever and vomiting; (2) facial palsy of peripheral type; (3) an auditory nerve affection; (4) on the mucous surface supplied by the glossoopharyngeal nerve, an eruption resembling that of herpes zoster; (5) pain felt behind the ear and down the left side of the neck posteriorly.

EXPERIMENTS ON THE DESTRUCTION OF LICE AND NITS.
A. Bacot and George Talbot. 2:703 (Nov. 29) 1919.

This is a very interesting report of experiments carried out by the authors, in which lice and nits were submerged in tap water and water containing 1 per cent. sodium chlorid, at various temperatures. In further experiments the pediculi and nits were treated with solutions of cresol, lysol and soap emulsion, and also with kerosene.

The article is not suitable for abstracting, but the experiments prove that both the pediculi and nits are extremely resistant to the methods used. Kerosene destroyed them in a shorter period of time than any of the agents used. All pediculi were killed or died within forty-eight hours after being immersed five minutes in kerosene.

INDOLENt SORES ON THE FINGERS. Robert W. MacKenna.
2:772 (Dec. 13) 1919.

An indolent sore on the finger of a nurse, a dental surgeon or a physician is all too often a precursor of a systemic spirochetal infection, and MacKenna urges the early examination of serum from such a sore for the micro-organism of syphilis as such lesions may present few if any of the accepted characteristics of a Hunterian chancr. There are no definite and inseparable characteristics of a chancr of the finger. It varies according to whether it is due to a specific infection superadded to an already existing simple sore, or is the result of a pure infection, de novo, through an abraded epidermis, or is due to an infection coincident with the implantation of one or another of the ordinary micro-organisms of suppuration.

In the author's experience the chief features of a chancr on the finger are: (1) its indolent character; (2) its slow but progressive increase in area; (3) its shallowness; (4) its scanty discharge; (5) its comparative painlessness; (6) the early involvement of the nearest lymphatic glands. Any one or all of these features may be masked by a coincident infection. The one constant characteristic by which it can and should be recognized at an early date is the presence of the infecting spirochete revealed by microscopic examination.

The author gives three interesting case records of extragenital chancreS.

This case report has the following points of interest: (1) the occurrence of a severe dermatitis and toxemia after the administration of only 1.9 gm. of novarsenobillon; (2) the high temperature recorded—105 F.; (3) the simultaneous occurrence of three distinct types of eruption—maculopapular, scarlatiniform and urticarial; (4) the marked general adenitis at the onset present before the lesions, other than the scalp, had become pustular; (5) the negative Wassermann reaction became positive. The author does not state into how many doses the 1.9 gm. of novarsenobillon was divided, or the period of time over which the treatment extended.

WAUGH, Chicago.


Webber’s experience showed that in the vast majority of cases lupus vulgaris first appears in the nose within the nasal cavities. In 113 out of the 128 cases recorded, or 88 per cent., the disease was found in this location. In a certain number of cases there was extension of the disease to the mucosa of the hard and soft palate, the pharynx or larynx, without evidence of skin lesion, but in sixty-nine cases (52 per cent.) skin involvement was noted on the face.

In forty-eight cases (37 per cent.) glandular involvement occurred, and the submaxillary chain was most frequently affected. In twelve cases scars showed evidence of operation for old submaxillary gland trouble, and it is inferred that at the time of operation the disease within the nose causing the glandular enlargement was present but overlooked.

Seventy-seven per cent. of the patients were women, and the majority of patients were seen during the second and third decades.

Webber discusses the characteristics of the eruption as seen in the different parts of the upper air passages, and concludes with a consideration of the treatment of lupus.

Curettage with or without the application of lactic acid, electric cautery, Pfannenstiel’s method and roentgen rays are the best methods employed, the method varying with the location of the disease.

SENÉAR, Chicago.


The author analyzes the reported cases of pulmonary syphilis and discusses the literature on this subject as to the following: (1) frequency of syphilis of the lungs, (2) types of pulmonary syphilis according to the authors, (3) spirochetes in the lung tissue, (4) inception of pulmonary syphilis, (5) gumma of the lung, (6) location of the gumma, (7) gumma in congenital syphilis of the lung, (8) diffuse syphilitic pneumonia, (9) syphilis caseous pneumonia, (10) lymphangitis syphilitica, (11) muscle cirrhosis, (12) chronic interstitial pneumonia, (13) syphilitic phthisis, (14) bronchial lesions, (15) cuboidal alveolar epithelium in syphilis, (16) syphilitic lesions in pulmonary arteries, (17) lesions of the pleura, (18) anthracosis and syphilis of the lungs, (19) elastic tissue in pulmonary syphilis, (20) syphilis and tuberculosis, (21) giant cells in syphilis.
Briefly stated, this review of the literature would seem to show that many of the reported cases of pulmonary syphilis have not been proved by scientific facts.

The author's investigation was made in a series of 152 necropsies of patients known to have been syphilitics. Twelve of these cases showed histologic changes of a definite syphilitic nature. These were divided as follows: (1) gumma of the lungs, three cases; (2) syphilitic perbronchitis with arteritis, two cases; (3) syphilitic fibrosis with arteritis, four cases; (4) syphilitic arteritis, three cases. The diagnoses were made on the histologic changes due to syphilis as described by Fordyce and Warthin.

The differences in histopathology of tuberculosis and syphilis are explained. The author does not think that the small number of cases in which definite evidence of syphilis was found indicates any immunity to the disease on the part of the lungs. He believes the small number of cases was due to the fact that a relatively small amount of tissue was examined.

A high percentage of the 152 cases showed a marked fibrosis. The exact number due to coincident myocardial affection could not be determined.

The author concludes that syphilis of the lung must necessarily be diagnosed microscopically.

Tomlinson, Omaha.


Nicolas, Favre and Massia have recently seen two cases of cancer of the face in which the skin of the face over a considerable area was deeply indurated, felt wooden, and was painful to the touch. Small points of degeneration, little superficial abscesses, a thinning of the skin, reddish violet color, and suppurating, fistulas were also seen. Trismus was present in both cases, and the lesions had developed in a relatively short time.

Thus both the objective and subjective findings were those of temporomaxillary actinomycosis, although yellow granules were not present.

Microscopic examination failed to disclose any organisms, but did reveal a picture of carcinoma, and the authors therefore believe that a pseudo-actinomycosis form of epithelioma ought to be recognized. They believe that the parasites of the mouth play a part in the production of this particular type of cancer.

Senear, Chicago.

AN ARTICLE ON INTRAMUSCULAR ARSENICAL TREATMENT. Levy-Bing G erray, Ann. d. mal. vén., No. 1 (Jan.) 1920.

The authors have given about 200 intramuscular injections of sulfarsenol, and enumerate the results obtained in seven cases. They believe sulfarsenol injected intramuscularly possesses as active and as rapid an action as any of the arsphenamin products injected intravenously. They contend that the intramuscular way is well borne, is very easily given, and has the advantage over the intravenous method of not causing any reaction, either early or late.

The drug is dissolved in distilled, sterilized water, in doses of 0.06 gm. in 1 c.c. of water, sometimes increasing to 0.12 gm. for 1 c.c. of water when the tolerance of the tissues is increased and when larger doses are indicated. The drug goes into solution immediately. The injection is made in the upper
portion of the buttocks, at the site usually chosen for intramuscular injections. Patients have been treated by first injecting 0.06 gm., following with 0.12, 0.18, 0.24, 0.3, 0.36, 0.42 and 0.48 gm. They feel that the frequency of the injections is more important than the size of the dosage. Injections are given every two or three days. The number of the injections is variable, and depends a great deal on the case to be treated.

A majority of patients suffered little or no inconvenience or pain. In a few there was some stiffness of the muscles, which rarely lasted more than from twenty-four to forty-eight hours. The authors did not notice any general reaction, either early or late, in this series of cases.

Oliver, Chicago.


Gibson treated two series of patients with kharsivan by two methods. In the first series the patients received an initial dose of 0.3 gm. and then doses of 0.6 gm. at weekly intervals, except between the third and fourth doses, when an interval of fourteen days was allowed to elapse. A total of 2.7 gm. was given in this course, which took five or six weeks, constituting a "concentrated" course.

In the second series, or "prolonged course," three injections of 0.3 gm., two of 0.4 gm. and two of 0.5 gm. were given at weekly intervals, except between the third and fourth injections, when a fortnight's rest was allowed. This course lasted about eight weeks. In comparing results the criterion of cure was a negative Wassermann reaction, and results showed that advantage seemed to rest with the prolonged course, owing to lesser incidence and violence of reactions, and partly because the total results were better.

Senear, Chicago.


The author reports the case of a young man who came to him for a urethral discharge of three days' duration. Six days later he developed some venereal warts, which were cauterized with the Paquelin cautery. The patient later developed orchitis and prostatitis, and was under observation for two months. A series of injections of sodium cacodylate were given him while under treatment for gonorrhea. Shortly afterward, the patient complained of difficulty in swallowing, and after consultation and examination by several laryngologists, an ulcer was found on the posterior wall of the pharynx, which was diagnosed as syphilis. It cleared up under syphilitic treatment.

The author concludes that by cauterizing the venereal warts he destroyed the chancre before its appearance, minimizing the virulence of the secondary period of the disease.

Oliver, Chicago.


Baker employed cutaneous tests for sensitization to proteins to determine: (1) the incidence of sensitization in the normal child; (2) the relative frequency of sensitization to the specific proteins; (3) a standard by which results...
of the reactions on anaphylactic patients may be determined properly. Proteins from the various groups of foodstuffs, prepared according to the method of Wodehouse, were used, and anaphylactic, as well as normal, children were tested.

A study of Baker's results showed that the incidence of sensitization of apparently normal children is almost a negligible factor. In anaphylactic children the articles of diet most commonly causing disturbance are oatmeal, potato, eggs, peas, rice, casein, beef juice and chicken. Only a careful study can reveal the causative factor or factors.

Senear, Chicago.

SYphilIS AND ITS SEROLOGICAL SIGNIFICANCE. David Kaplan, New York M. J. 110:969 (Dec.) 1919.

The author has repeatedly found positive Wassermann reactions in patients without syphilis, and in those who did not show any trace of the disease at postmortem examination. To continue to treat cases after clinical improvement is no longer noted simply to render a positive Wassermann reaction negative is a poor therapeutic measure. A positive Wassermann reaction is not specifically an index to the existence of spirochetes in a patient.

Pleocytosis is not considered an index to the presence or absence of syphilis but indicates only an irritant somewhere in the nervous system and is of little value as a serologic guide to treatment.

The colloidal gold curve is the most instructive laboratory aid in neurology.

Most paralytics are overtreated and intraspinal and intradural treatment in this disease is deprecated by the author.

Tomlinson, Omaha.


Dr. Kime recommends as a simple, efficient, quick and easily applied remedy for creeping eruption, a salicylic collodion, 2 per cent. of salicylic acid for children and 4 per cent. in adults in plain collodion. This is painted twice daily well over the line of eruption, especially at the points of migration. The contracture of the collodion obstructs migration, and the salicylic acid destroys the larva.

Pusey, Chicago.


Pijper, realizing that scanty information is available regarding the prevalence of syphilis in South Africa, attempted to determine this. Excluding all known syphilitics, he examined the blood of fifty apparently healthy persons, both whites and colored, and found a positive Wassermann test in 10 per cent. He assumes that only 50 per cent. of syphilitic patients in the latent stage have a positive Wassermann test, and so concludes that we must assume that 20 per cent. of the patients examined had syphilis. If we add to this cases of known syphilis, excluded in the above series, we must conclude that between 20 and 25 per cent. of the people of South Africa are affected with syphilis. All of his positive cases were found among the colored population.

Senear, Chicago.
WRINKLED SENILE SKIN IN A CHILD TWO YEARS OF AGE.

Variot and Cailliau, Bull. et mém. Soc. méd. d. hôp. de Par. 35:989 (Nov. 27) 1919.

Variot and Caillau describe the case of a child 25 months of age, whose skin showed many folds and much wrinkling. Histologic examination showed an almost complete absence of elastic tissue in the papillary layer, and a complete lack in the lower portion of the corium. The question arises as to whether this deficiency is due to a lack of development of elastic fibers, or to a destruction of fibers. If the former is the case, can it be possible that the elastic fiber may develop later?

Senear, Chicago.
Society Transactions

MANHATTAN DERMATOLOGICAL SOCIETY

Regular Meeting, Dec. 9, 1919

PAUL E. BECHET, M.D., Chairman

GUMMA OF THE TONGUE. Presented by Dr. M. B. PAROUNAGIAN.

Mrs. A. M., aged 42, had a lesion situated on the tip of the tongue, on the dorsal aspect, that was about the size of a silver dime, with an irregular border. It was not indurated, and had been present for about three months. She had been presented at the Academy, Section on Dermatology and Syphilis, with the above diagnosis, and most of the members disagreed with the diagnosis—some believing it to be tuberculosis, some epithelioma, etc. Two days after the presentation she was given neo-arsonphenamin at the Bellevue Hospital Clinic, and the subsequent improvement was so marked—at least 50 per cent.—that it was deemed desirable to present her again. Her Wassermann reaction was ++ + +.

DISCUSSION

Dr. L. B. MOUNT said that the clinical picture was more like that of tuberculosis—the jagged undermined edges and the brilliant-hued base spoke clinically for tuberculosis rather than epithelioma or gumma.

Dr. A. J. GILMOUR said that when he saw the case at the Academy the previous week he had agreed with the views just expressed by Dr. Mount, but seeing it again after the arsphenamin treatment he thought it was a gumma.

Dr. W. S. GOTTHEIL thought it was a gummatous condition.

Dr. O. L. LEVIN said that the lesion did not resemble the ulcers of tuberculosis. This ulcer was regular, not undermined, clean cut and showed an absence of the milia tuberculosis which were usually found on the mucous membrane in the neighborhood of tuberculosis ulcers in that locality. Besides, tuberculosis in that region was always secondary to pulmonary tuberculosis.

Dr. B. F. OCHS said that in his opinion the lesion was entirely gummatous. It seemed to be healing up rapidly under treatment.

Dr. M. B. PAROUNAGIAN said he had seen the patient at Bellevue and when he first glanced at the lesion it seemed to be such a pale, indolent line with irregular undermined edges that he at once thought of gumma. The Wassermann reaction was ++ + +; that helped in the diagnosis. Most tuberculous lesions were hard and inflamed and more painful, and none of these conditions were present to any extent. The patient was a neurotic woman and complained of some pain. The majority of the opinions expressed the previous week had made him feel uncertain about his diagnosis, but he decided to give the neo-arsonphenamin treatment anyhow, and the marked improvement encouraged him in his original diagnosis.

MULTIPLE BENIGN TUMOR-LIKE NEW GROWTHS. Presented by Dr. O. L. LEVIN.

Miss A., aged 22, a native of Russia and an operator of waists by occupation, was first seen three days before presentation. She complained of dandruff and itching of the scalp. The lesions for which she was presented
were detected during the routine examination. On the upper part of the back she presented several lentil to bean-sized, slightly elevated, oval shaped, bluish-white, soft tumors. In the same region were several oval-shaped, slightly depressed, soft scars. There was no history of varicella.

**DISCUSSION**

Dr. I. Rosen said the case reminded him of one seen at Mount Sinai, that of a woman with a lesion on the forearm which was at the time diagnosed as morphea, with a radiodermatitis. She developed new lesions on the circumference of the radiodermatitis very similar to those shown on the back of Dr. Levin's patient. Dr. Highman made a biopsy and pronounced it sarcoid. If a section were made of this case it might reveal the same condition.

Dr. O. L. Levin said he still believed the condition to me multiple benign tumor-like new growths and that they conformed to the descriptions given by Schwenninger and Buzzi. When seen by daylight, the lesions were more distinct. The tumors felt soft and could be depressed below the surface of the skin. Not only were tumors present, but there were also the atrophic scars which completed the picture. The term tumor-like new growth did not well describe the condition and was misleading. The pathology of both types of lesions showed an atrophy of both corium and epidermis, and the condition was evidently a primary atrophy of the skin. He repeated that he did not think it was sarcoid.

**HEMIATROPHIA FACIALIS.** Presented by Dr. O. L. Levin.

Mrs. A. W., an Hungarian by birth, aged 35, married fifteen years ago, had two healthy living children and was divorced five years ago. She came to the Beth Israel Hospital clinic complaining of an alopecia of the left side of the scalp which had been present for five years. There was no history of syphilis nor did she present any evidence of it. Examination revealed an atrophy of the left half of the face and skull. There was a distinct flattening of the left half of the face, which was particularly marked on the forehead, and there was a distinct ridge separating the normal from the abnormal area. The skin was thin and on the forehead an absence of the underlying soft tissues was evident. A similar condition was present on the left half of the scalp, and the hair had atrophied. The roentgenogram showed a thinning of the bone.

**DISCUSSION**

Dr. M. B. Parounagian said he had presented this same patient before the Society some two or three years ago. At that time the diagnosis was morphea. The lesion extended up to the scalp and was about one-half inch in width; it was white, elevated and board-like. There was also a similar lesion on the lower part of the sternum. The patient was treated with small doses of thyroid for some time. Later, she came to the Gouverneur Clinic and he watched her there for months. She apparently improved greatly and then disappeared. He thought the condition was morphea, with a few slight changes during recent years.

Dr. F. Wise said the case should not go on record in the Journal as hemiatrophia facialis. Stelwagon described the condition. It was really hemiatrophia cranialis, for the face was not involved to any appreciable extent. It might be called morphea or scleroderma—but the term described a real
hemiatrophia facialis—one side of the face being flattened and hard, looking like a one-sided paralysis of the face. The term banded scleroderma was more suitable to this case.

Dr. O. L. Levin said the condition was described in almost all textbooks under the title hemiatrophia facialis. Stelwagon, Ormsby, Osler, and others included it under the heading of scleroderma. Starr, in his book, showed two cases in which there was atrophy of the skin, subcutaneous tissues and bone. Alopecia had been described as occurring in this condition. Two theories had been advanced to explain its etiology: first, that the condition followed scleroderma, and second, that it was a result of trophic disturbances.

EPITHELIOMA OF THE TONSILS, WITH SYPHILITIC CONDITION. Presented by Dr. M. B. Parounagian.

A man, aged 50, born in Hungary, whose father was still living, and whose mother had died of old age, twenty-five years ago, nine months before marriage, had contracted syphilis and gonorrhea and was treated for six months. The lesion in the throat appeared to be an epithelioma on the tongue in connection with a syphilitic condition. The Wassermann reaction was ++++

DISCUSSION

Dr. L. B. Mount agreed with the diagnosis and suggested that it was a suitable case for treatment with radium.

Dr. P. E. Bechet suggested that the absence of enlarged submaxillary glands might be due to the fact that these glands were supplied by lymphatics draining the tongue, lips and floor of the mouth. The lymphatics of the pharynx ran along the course of the pharyngeal arteries and entered the upper set of deep cervical glands.

Dr. M. B. Parounagian favored the diagnosis of epithelioma because four injections of arsphenamin had failed to clear up the condition, therefore he could not consider it syphilis. The mucous membrane lesions yielded to arsphenamin treatment better than to any other treatment. The appearance of the lesion suggested carcinoma, though the patient might have syphilis as well. He had bad teeth, and that might have aggravated the condition. The history of only three months' duration might account for the absence of enlarged glands. The speaker then asked for advice as to whether to continue the antisyphilitic treatment as well as radium.

Dr. F. Wise said that radium was the only remedy indicated.

LEPROSY. Presented by Dr. L. Oulman.

The patient was 13 years of age and was born in Greece. He showed a number of depigmented spots which were anesthetic, especially on the neck. All over the body were depigmented spots which were infiltrated. The ulnar on both sides was very much thickened, and the patient had the leonine face characteristic of Hansen's disease.

DERMATITIS EXFOLIATIVA. (Treated by Vaccines.) Presented by Dr. W. S. Gottheil.

Two patients were presented showing this condition, both from the City Hospital, one of them being a man of 70 and the other aged 77. In both instances the malady was of recent date. In one case it began in April, 1919; in the other, in September, with a general eruption and abundant scaling. When first seen both presented typical cases of dermatitis exfoliativa. Both
were treated with vaccines, resulting in immense improvement. The first treatment consisted of 50 millions, going up to 100 millions, at intervals of a week. One man had had four treatments and the other three, given subcutaneously. There was a slight reaction after some of the injections, but with most of them there was none at all. The improvement in the condition was marked. There was a sclerodermatous element in one case, though it was not a typical scleroderma.

**DISCUSSION**

**Dr. Parounagian** asked whether Dr. Gottheil expected the improvement to be permanent.

**Dr. Wise** said he thought it was difficult to differentiate cases of the type presented from leukemia cutis, lymphadenosis, pityriasis rubra of Hebra, etc., without biopsies, study of the blood pictures, etc.

**Dr. Gottheil** said that the gross appearance of both patients when first seen was that of a typical dermatitis exfoliativa. Both showed scaling as large as half the palm. They received no other treatment than the vaccines, and the improvement was immense. Both patients had been bedridden. He was not altogether satisfied with the examinations that had been made, but they were the best that could be obtained under the circumstances.

**ALOPECIA TOTALIS** (treated with carbolic acid). Presented by Dr B. F. Ochs.

Wm. C., born in the United States, a night watchman, 39 years old, had a full beard and a full head of hair up to eight years ago. He then noticed that his hair was falling out. The condition began on the left side of the face and spread rapidly, so that in about one year his face and scalp were entirely devoid of hair (alopecia totalis). After treatment in various clinics, he came to Lebanon Hospital Dispensary about two years ago, and was presented in various society meetings as a case of alopecia complete.

The treatment consisted of painting the entire scalp with pure phenol—not neutralizing it with alcohol. A second application was made six weeks later. Internally he was given tincture mucis vomica in doses of 5 to 10 minims, three times a day. After six months his hair began to reappear, first on the scalp, then on the face. He was presented not so much on account of the treatment as to show that a patient with apparent malignant alopecia might recover. He presented a fair amount of hair on the scalp, and hairs were beginning to return in the axillae, pubes and on the face.

**DISCUSSION**

**Dr. W. S. Gottheil** said he had seen the case in the spring of the year. At that time the man was absolutely hairless and presented a perfect picture of alopecia totalis. The prognosis seemed bad. It was a wonderful regrowth of hair, considering that the man had been without any for five years. At the same time, it seemed doubtful whether the phenol had anything to do with the improvement since the man's eyebrows also were growing in again.

**Dr. P. E. Becher** said that he had had considerable experience with phenol in the treatment of alopecia areata. Therapeutic results with the quartz lamp were superior, but phenol ranked next in value. He had observed uniformly good results from its use in the circumscribed variety. About five years previously he had presented before the Academy, Section on Dermatology and Syphilis, a very extensive case, the bald patch occupying about half the scalp.
He had repeatedly painted one half of this area with 95 per cent. phenol, leaving the other half untreated. After several months the hair was very thick over the painted area and was over one-half inch long, while the untreated half was bald. He was convinced of the value of the method.

Dr. O. L. Levin said that he had had a 2 year old child under treatment for alopecia of the scalp, which first appeared six months before treatment was applied for. No local therapy was employed, but small doses of thyroid were administered. Almost immediately the hair ceased falling out, and a month after beginning treatment the whole of the affected area was covered with fine hairs. The alopecia was of peculiar distribution; the baldness covered the frontal, temporal, and parietal regions and was complete except for a narrow band about one-quarter inch wide along the sagittal suture.

Dr. M. B. Parounagian did not understand what benefit could be obtained from the application of phenol on the scalp when the entire body was devoid of hair. He then recalled a case which he had presented some two months before, and said that perhaps the age of the patient might have something to do with the results. This patient was 29 years old, his own patient was over 50. He had made several applications of phenol without any effect whatsoever.

Dr. P. E. Bechet said he did not think that any of the therapeutic results were as effective in alopecia totalis as in the circumscribed variety. A favorable prognosis was more certain in the latter condition.

Dr. Ochs said he had not presented the patient with the idea of claiming that the applications of phenol brought out the hair elsewhere. At the time Dr. Parounagian had presented the case referred to, the speaker had advised the use of phenol and promised to present a patient that had had bald patches, and had been successfully treated with phenol after having been bald for a year. He had several of these cases under observation and would try to present them later, with pictures taken before and after the application of phenol, so that the improvement could be noted. Just at this time this patient came in, and it was not the question of phenol treatment only, but to show that a patient with complete alopecia might still hope for improvement. As a rule, such patients are told that their hair cannot grow again. This man was taking nux vomica, 5 to 10 drops, three times a day. He had especially wanted to show that there was no danger in treating the whole scalp with pure phenol without neutralizing it. The man made no objections to coming back after a month, and he wanted another treatment.

CHANCRE ON THE RIGHT TONSIL. Presented by Dr. M. B. Parounagian.

W. B., a single man, 28 years of age, born in France, a cutter by occupation, seen at the Bellevue Hospital Clinic, had a marked roseola and generalized adenopathy. No sores were present on or about the genitals. Upon examination of the throat, a sharply circumscribed, elevated, and indurated lesion was noticed on the right tonsil. His Wassermann reaction was + + + +.

SCLERODERMA TREATED BY ENDOCRINS. Presented by Dr. M. B. Parounagian for Dr. Ludwig Weiss.

A man, aged 45, born in Germany, presented a scleroderma lesion on the forehead. The lesion resembled that of a linear scleroderma in a young woman shown by Dr. Weiss two years ago, which was cured by the adminis-
Discussion

Dr. O. L. Levin agreed with the diagnosis as presented. He regarded the condition of the face and leg as a scleroderma, and did not believe that the furuncle could produce so extensive an induration and edema as the patient showed. The leg condition seemed to be the edematous type of scleroderma.

Dr. A. J. Gilmour thought the scalp condition looked like a subacute eczema, and the patient gave a history of continuous itching of the scalp for a long while. It did not seem probable that the infection he had would cause the marked edema of the leg with pustular lesions.

New York Dermatological Society

Regular Meeting, Dec. 16, 1919

George M. MacKee, M.D., President

Angioma Serpiginosum. Presented by Dr. Howard Fox.

Miss O. E. H., aged 27, born in the United States, a stenographer, with a negative history, as a child had suffered from chickenpox and whooping cough and eight years ago had had an attack of "walking typhoid." She had always suffered from obstinate constipation, otherwise her health had always been fairly good. The menses were established at 14, followed for a short time by dysmenorrhea.

The eruption first appeared on the forearms and later on the legs, face, neck, chest and back. It attained its maximum development in about five years, since which time there had been little change. During the past few weeks, simultaneous with the beginning of cold weather, the eruption had become more prominent on the hands and eyelids. The eruption in general was drier, redder and more noticeable in the winter. The patient perspired only on the face, hands and feet and only in very hot weather. There was slight burning of the skin when she became warm, but never any real itching. She considered herself as well and strong as the average person and had a good deal of endurance. She suffered from nervous indigestion at times. During the past thirteen years she had been treated by various general practitioners, most of whom considered her eruption to be an eczema and advised her not to bathe, although she found this to be advantageous. She had tried many kinds of diet without improvement.

The patient was well nourished, of a nervous type, short, weighing 112 pounds. There was a slight tremor of the tongue.
The eruption was generalized covering the greater part of the body, being most marked on the extremities. It was especially marked on the buttocks, thighs and arms. It was slight in amount on the flexures, the interscapular region and the face. The palms were entirely free. The soles, on the contrary, were red and covered with thick scales and callosities. The eruption, when viewed at a distance, consisted of extensive sheets of reddish skin, covered with a profuse branny scaling, with no evidences whatever of itching or oozing. On close inspection the eruption was seen to consist of reticulated masses of dilated vessels with a profuse sprinkling of bright red pinhead puncta. The redness could be almost entirely effaced by firm pressure, but returned immediately on removal of the pressure. No distinct papular elevations and no circinate lesions, as shown in the case of Dr. Wise, could be seen. On the face, and more especially on the front of the neck and chest, were numerous light yellow pinhead to pea-sized lentigines. These lesions, according to the patient's statement, were more numerous in summer. The eruption was best observed by removing the scales with a greasy application. The urine showed nothing abnormal.

Histologic Examination.—This was made by Dr. Walter J. Highman and showed:

Low Power: Eosin-hematoxylin stain. The changes were in the epidermis, papillary area and subpapillary stratum. Evidently an inflammatory and angiohyperplastic process were seen, for the capillaries were both dilated and increased in number and were surrounded by sheaths of inflammatory cells. In various sections from three to six or even eight papillae and their corresponding lower breadths were included. The entire picture was somewhat sharply terminated below, as in lichen planus, but the line was not quite so typically abrupt.

High Power: Higher magnification revealed moderate edema in the lower levels of the rete, papillae and subpapillary regions. The hyperplastic capillaries were moderately dilated and had swollen endothelia taking a slightly exaggerated nuclear stain. About the vessels, the cells already mentioned were found to be of the lymphocytic round type and semi-occasionally a plasma cell was present. The collagen, in islands, is slightly altered as to its staining intensity, being paler than normal.

Summary.—The condition was an inflamed, angiohyperplastic dermatosis.

Discussion

Dr. G. H. Fox agreed with the diagnosis but desired to criticize the nomenclature. He said the dissemination was not an angioma nor was it serpiginous. He believed Hutchinson was responsible for the name and it was one of several bad names from the same source. As one swallow did not make a summer, so a thousand telangiectases did not make a tumor. In some cases there were patches that tended to increase in size by spreading at the margin, but there was nothing in this case to suggest a serpiginous character.

Dr. W. B. Trimble agreed with the diagnosis of angioma serpiginosum, especially since it seemed to him to be the consensus of opinion that cases of this kind should be so called. Generalized cases of this type were, so he understood, accepted by dermatologists, especially in New York, as examples of widespread angioma serpiginosum. That, however, was going far afield from the original description of the disease. Hutchinson depicted the disease as an isolated lesion with peripheral extension, perhaps in a serpiginous manner. A case conforming to the original description of Hutchinson was
presented at the Academy of Medicine by Dr. Wallhauser some years since. Probably the case under discussion at that time might have been looked on as a generalized telangiectasia.

Dr. W. J. Highman said he had examined a specimen from this case and, although he could not yet report on it in detail, the cursory examination certainly presented the microscopic picture described by Dr. Pollitzer so well in Dr. Wise's article. Although his experience was limited, it corresponded with the descriptions in the literature. He did not see why it should not be called a dermatitis telangiectasia, leaving out the term serpiginosum.

Dr. F. Wise said that in this case the eruption was almost identical in appearance with the case he had reported in The Journal of Cutaneous Diseases, October and November 31, 1913, with the exception that in his (Dr. Wise's) patient there were many distinct annular lesions, most apparent on the trunk, abdomen and legs. These annular lesions were well depicted in the illustrations accompanying his article. The cases described by British authors as angioma serpiginosum corresponded, without the slightest doubt, with the cases of the speaker and those of Dr. Howard Fox, including the patient presented at this meeting. In some of the patients the disease had been preceded by a fine vascular nevus which had apparently increased in extent in adult life, spreading in a more or less serpiginous manner.

Dr. G. M. MacKee said that the principal differential clinical and histologic feature between angioma serpiginosum and generalized telangiectasia was the presence of inflammation-dermatitis. This was manifested clinically by slight desquamation and histologically by infiltration. He was inclined to agree with the diagnosis of infective angioma or, as Dr. G. H. Fox would express it, dermatitis telangiectasia.

Dr. G. H. Fox said he had not meant to make any objection to the use of the name. When any name becomes established there is no real objection to its use. We retain the name angioma serpiginosum, inapplicable as it may be to certain cases, just as we retain the name of sycosis although we may never have seen a case that in any way resembled a fig.

Dr. Howard Fox said that, following Dr. Wise's suggestion, he would try the Alpine lamp on this case and hoped the result would be equally good.

FOR DIAGNOSIS (Probably Lupus). Presented by Dr. W. B. Trimble.

A girl, aged 6, born in this country, when a year old, according to the statement of the parents, had had an eruption scattered over the whole body, which disappeared in a short time, except on the face. This lesion remained and slowly increased in size until the time of presentation. It was irregular in outline, thickened, and (on close scrutiny) was seemingly verrucous in character. Several small superficial atrophied spots could be made out in the healthy skin close to the border of the lesion. There were also several small papular lesions of indeterminate character on the left buttock. The possibility that these lesions might be tuberculous had been taken into consideration.

DISCUSSION

Dr. W. J. Highman said it was a very interesting case. If the lesion had been on the scalp it would have suggested folliculitis decalvans in its late manifestations, and he did not doubt that similar lesions could occur elsewhere on the body provided there was a low grade of infection such as presented by this child. There was no evidence of tuberculosis of either the toxic or
the cutaneous bacterial type, as might be implied by the term lupus erythematosus. There seemed to be a low grade infection causing a disturbance of the follicles, leading to these more or less cribiform pseudo-atrophic scars. It seemed analogous to folliculitis decalvans.

Dr. G. M. MacKee said that his views rather coincided with those expressed by Dr. Highman. The condition made him think of ulerythema ophryogenes, the follicular element being masked by suppuration and crusting.

Dr. W. B. Trimble said that the case was presented for diagnosis and he had suggested that it might probably be tuberculous. The tentative suggestion of tuberculosis was brought up by the fact that the condition started very early in life—when the child was only a year old—in a group on the cheek and on one side. It was a localized lesion with a few outlying scars around it.

ECZEMA OF THE NIPPLES. Presented by Dr. W. B. Trimble.

A woman, aged 18, born in the United States, had had the condition for about a year. It exhibited the usual signs of eczema—redness, edema, slight thickening, sometimes weeping and sometimes crusted. The peculiar feature of the case was the thickening and intensely black wide pigmentation of the right areola. Both nipples were affected, though the condition on the left had been present for about seven months as against one year for the right. The lesion on the right breast dated back three and a half years, though the patient stated that the condition cleared up and remained practically well for about two and a half years Many different forms of treatment had been tried without benefit.

Dr. J. E. Lane thought the case was one of chronic eczema. The interesting and peculiar features were that it was bilateral and attended by so much edema limited to and occupying the whole of the areolae. He should expect the lesions to heal rapidly with mild doses of the roentgen ray—not over a quarter skin unit weekly, for a few weeks.

Dr. J. Kingsbury said that it was not easy to diagnose the case. It was convenient to call it eczema and keep it under observation, and it might be well to refrain from local treatment for a while. Perhaps it had been over-treated. In his opinion, roentgen-ray treatment was absolutely contraindicated.

Dr. Howard Fox held an exactly opposite view to that expressed by Dr. Kingsbury in regard to treatment. He considered the case to be an eczema, and from his experience in treating that disease he felt quite sure the condition would yield readily to roentgen-ray treatment.

Dr. W. J. Highman said he was almost afraid to express his opinion on the case, but the most striking thing about it was that the lesions were limited to the areola. In any ordinary exudative inflammation, either erythema or dermatitis, one would expect to find a more extensive spreading of the process to the neighboring skin. On account of this curious limitation of the lesion, he was inclined to suspect that the patient was of the type that might subject itself to an hysterical mutilation and that it was an artificial affair. It might be a good plan to put on some nonirritating dressing that could not be removed by the patient, and find out whether the lesions cleared up. Outside of that suggestion, he favored Dr. Howard Fox's views in regard to roentgen-ray treatment.

Dr. G. M. MacKee said he was very suspicious of eczema persistently located on or around the nipples, even in young subjects, as such persons might be candidates for Paget's disease. Regarding treatment, he thought that
a few weekly applications of the roentgen rays, each dose consisting of from 
\(\frac{1}{4}\) to \(\frac{1}{2}\) of a skin-unit, would soon make the lesions disappear.

Dr. W. B. Trimble said he wished to ask two questions before the discus-
sion ceased: First, did any of the members think that the diagnosis of Paget's
disease should be considered? Second, what effect would the roentgen ray,
if used, have on the milk ducts of the mammary gland?

Dr. G. M. MacKee, replying to Dr. Trimble's question as to the possible
bad effects of the roentgen rays on the milk ducts, said the amount used
would not be large enough to have any detrimental effect; one unit in divided doses
for a period of over a month would have no effect on the glands.

Dr. W. B. Trimble said that the patient had had no radium or roentgen-
ray treatment—though several stimulating ointments had been applied. At one
time she came very near recovery on a 2 per cent. white precipitate ointment;
that proved to be the most effective, after trying various things. Later, how-
ever, the condition relapsed and proved more obstinate.

**COLLOID MILIUM. Presented by Dr. W. B. Trimble.**

A man, aged 58, born in the United States, had had the condition for two
years. The patient first noticed a small papule somewhat lighter than the
normal skin on the left side of the nose; others gradually appeared, and after
a time lesions appeared on the right side. The left side was always more
extensively affected. The condition as presented consisted of a group of small
yellowish-white papules, lighter than the normal skin, with a translucent appear-
ance. The whole group made a lesion about the size of a five-cent piece. A
biopsy confirmed the clinical diagnosis as the section showed the peculiar
connective tissue degeneration divided by thin septums.

Dr. G. H. Fox said that these statements, like the arguments in regard to
angiomatous serpiginosum, did not convince him that this case was milium; nor
was it any more colloid than lupus would be. He did not care to make a
hasty diagnosis, but the cases of colloid milium he had seen were generally
disseminated over the nose and cheeks. He had never seen a case with only
one group, as in this instance.

Dr. J. E. Lane did not remember whether the presenter of the case had
said that a microscopic examination of this lesion had been made. From the
appearance alone, he should not have suspected colloid milium. The lesion
appeared to be a basal cell epithelioma or possibly a fibroma.

Dr. Howard Fox agreed with Dr. Lane.

Dr. W. J. Highman agreed with Dr. Lane and Dr. Howard Fox. If it
were colloid milium it would show colloid matter under the microscope. The
microscopic diagnosis submitted must have been made under a misapprehen-
sion of what the term signified.

Dr. F. Wise asked whether the microscopic diagnosis was made on a
satisfactory specimen and whether the corium presented a colloid degeneration.
This lesion could not be called a colloid milium; it might be a colloid degenera-
tion of the skin. A patient had been shown at the Philadelphia meeting by
Gilchrist in which almost the entire skin was involved in a colloid degeneration.

Dr. G. M. MacKee said that clinically he would regard the lesion as a
nodulo-atrophic type of basal cell epithelioma. At first glance there seemed
to be vesicles, but on close inspection and palpation these vesicles were seen
to be translucent nodules.
Dr. W. B. Trimble said that when the case was first seen it was slightly different from the condition as presented, though it had not changed materially; the nodules in the group were formerly a little further apart, though from the first they were in one group. The patient had been treated with radium and the mild reaction following the exposures had seemed to have the effect of causing the nodules to coalesce. Before the pathologic examination was made several diagnoses had been considered—epithelioma, lupus vulgaris, etc. Colloid milium had suggested itself on account of one or two small lesions on the opposite wing of the nose; even these were grouped, although each group contained only two or three nodules. The lesions on the right side had been curetted and cauterized, with a beautiful result; the lesion on the left side had been treated with radium, without benefit. Lupus and epithelioma had been definitely ruled out. There was no objection to dropping the term milium, though there was no question of its being a colloid degeneration made up of a group of nodules. The microscopic slide, as he remembered it, was quite similar to the rough sketch that Dr. Highman had drawn.

EPITHELIOMA OF UPPER LIP; SUPERFICIAL FLAT TYPE. Presented by Dr. W. B. Trimble.

A man, aged 35, born in Italy, a factory worker, had a lesion about the size of a silver quarter, situated on the upper lip, just to the right of the median line. It was flat, almost flush with the surrounding skin, slightly infiltrated, and dusky red to brown in color. It was sharply circumscribed with a distinct line of demarcation between the diseased and the healthy skin. The condition was of twelve years' duration. It began as a small macule or flat papule and had slowly though steadily increased in size. Salves had been applied for a number of years without result. The Wassermann reaction was negative.

DISCUSSION

Dr. W. J. Highman said it was difficult to make a clinical diagnosis on such a case. It did not look like the ordinary case of sycosis seen on the lip, and the chronicity of the condition seen in the center of the lesion suggested epithelioma.

Dr. Howard Fox thought the diagnosis lay between sycosis and epithelioma. Either condition could be removed by treatment, but as it was not feasible to perform a biopsy on the lip, the diagnosis would probably remain in doubt.

Dr. J. E. Lane agreed with what Dr. Fox had said. An additional indication of the probability of epithelioma was the fact that on the cheek there was a marked localized keratosis.

Dr. G. M. MacKee thought that the duration of the condition also spoke in favor of epithelioma. It was probably a senile keratosis which was beginning to evolve into epithelioma.

Dr. W. B. Trimble said that no biopsy had been made for he wished to present the case first. He would, however, take a specimen with a small biopsy punch and would report on the case later.

CHRONIC CONGESTION OF THE FACE: FOR DIAGNOSIS. Presented by Dr. W. B. Trimble.

The patient, aged 27, born in New York, a clerical worker, stated that she had had trouble with her face for the past five years. She had not
been subject to constipation but had had attacks of indigestion, with abdominal pain, about once every few weeks. The skin of the face showed a dull red blush, permanent and evidently due to passive venous congestion, with some dilated venules. There were no scaling, no papules and no itching.

**DISCUSSION**

Dr. G. H. Fox was inclined to regard the eruption as rosacea.

Dr. J. E. Lane agreed with Dr. Fox that it was a case of acne rosacea in the first stage. Rosacea, frequently or usually began as a transient redness which later became more or less permanent, and the papules, pustules and telangiectasia did not appear until later, or might not appear at all.

Dr. W. B. Trimble did not agree with the suggestion about rosacea. There were no acne papules and no scaling; the condition was all over the forehead and neck, with no intervening healthy skin. It seemed to be a chronic congestion. The skin was perfectly smooth. The vessels were dilated, but he did not think it was a case of rosacea.

**NAEVUS PIGMENTOSUS UNILATERALIS.** Presented by Dr. Howard Fox.

B. G., a Jewish girl, aged 16, a bookkeeper, had an eruption that had existed, according to her mother's statement, since she was 3 years old. It consisted of pigmented lesions on the right side of the face and neck. On the cheek it consisted of numerous discrete, light brownish-yellow, pin-head sized spots on a fairly normal skin. On the neck the lesions were of the same character, except that they were much darker in color, some almost black, and the intervening skin was light brownish-yellow in color. The lesions were not elevated, and there was no hairy growth. She was being treated by another physician with radium.

**GENERALIZED LICHEN PLANUS.** Presented by Dr. F. Wise.

A little girl, aged 7, from Dr. Fordyce's clinic, presented an almost universal generalized lichen planus. The condition had existed for nine weeks. She had a dermatitis on the face resembling a seborrheic eczema. It was difficult to decide whether or not the condition was a modified lichen planus. When the patient first came under observation the entire body presented the appearance of a dermatitis exfoliativa, together with lichen planus papules.

**CASE FOR DIAGNOSIS.** Presented by Dr. F. Wise.

A woman from Dr. Fordyce's clinic, aged 30, born in Syria, had had the disease for six months. It was apparently a simple case, but was difficult to diagnose. One of the members of the clinic thought the condition was an ordinary purpura; it might have been that or a folliculitis, or a papulonecrotic tuberculid. The diagnosis seemed to rest between the two conditions last mentioned. The patient's husband had been treated for syphilis. The eruption consisted of numerous ordinary follicular papules, deep seated nodules, and purpuric macules scattered over the front and back of both legs. A Wassermann test had been made but the report had not been received.

**DISCUSSION**

Dr. W. J. Highman suggested that it might be erythema nodosum.
CHEILITIS GLANDULARIS (?). Presented by Dr. F. Wise.

Anna T., a patient from Dr. Fordyce's clinic, presented for diagnosis, aged 21, married and with a history of one miscarriage, presented a lesion on the lower lip of a year's duration which superficially resembled lupus erythematosus; on the buccal mucosa there was an inflammatory condition like ordinary stomatitis. The diagnosis seemed to lie between lupus erythematosus and cheilitis glandularis. The Wassermann test was negative. The lower lip presented a sharply circumscribed, dry, scaly, and somewhat fissured appearance, resembling that seen in lupus erythematosus.

LICHEN NITIDUS. Presented by Dr. W. B. Trimble.

A colored man, aged 26, born in the United States, had had the condition about four months. The eruption consisted of thickly grouped small pin-head sized, whitish-yellow, flat lichenoid papules on the backs of the hands, shaft of the penis and extensor surface of elbows. There were a few scattered papules on the back and ankles. The Wassermann reaction was negative. There were no subjective symptoms.

Biopsy: Section through one of the individual papules showed a sharply defined lesion of the papillary portion of the derma, which had the general appearance of a granuloma. The infiltration consisted of epithelioid cells and smaller mononuclear cells. No giant cells were found in this specimen.

DISCUSSION

Dr. W. J. Highman said it did not look like that variety of lichen to him. The penile lesion and those on the forearms looked like milia, and Dr. Lane had been able to scrape little coagulated white masses out of many of them. Possibly it was a disturbance of the sebaceous follicles of the skin or of the opening of the sweat follicles—in short, a retention cyst due to a hyperkeratosis of the outlet, giving this peculiar picture.

Dr. W. B Trimble said the usual description of this disease was that the lesions were similar to those of lichen planus, only smaller; they were the color of the general skin; the genitalia were favorite locations; and subjective symptoms were absent. The case under discussion being in a negro, the color sign was lost to a degree. He thought the lesions in the case presented were more widespread than those usually described. No giant cells were found in the specimen studied, though it was a granuloma.

FOLLICULITIS DECALVANS WITH SEBORRHEIC ECZEMA. Presented by Dr. F. Wise.

S. G., aged 38, from Dr. Fordyce's clinic, born in Russia, had had the condition for fourteen years. There was a bald atrophic patch on the scalp which at first was thought to be favus, but later a diagnosis of folliculitis decalvans was made. There was also a seborrheic eczema on the chest. The surface of the bald patch was pale, atrophic, parchment-like and entirely devoid of hair. The outline was irregular. Microscopic search for the achorion was negative.

DISCUSSION

Dr. G. M. MacKee favored the diagnosis of folliculitis decalvans on account of the short duration—four years—and also because of the serpiginous outline
of the cicatrix. The lesion was inactive at the time of presentation, but at intervals pustules would form at the periphery and the disease would extend a little farther.

Dr. G. H. Fox made a diagnosis of preexistent favus. He said that the cicatricial patches of folliculitis decalvans were perfectly smooth, while in this case there were a few wiry or deformed hairs left in the cicatrix, which was quite characteristic of favus.

CHICAGO DERMATOLOGICAL SOCIETY

Regular Monthly Meeting, Nov. 19, 1919

David Lieberthal, M.D., in the Chair

A CASE FOR DIAGNOSIS. Presented by Drs. E. L. McEwen and A. W. Stillians.

A negro, aged 28, presented a generalized, dry, papular eruption which extended from the toes to the ears, with only small islands of normal skin. The lesions first appeared about Jan. 1, 1919, as vesicles in the popliteal spaces and spread upward, the ears, head and neck being last involved. These vesicles would dry and disappear, reappearing after about a week. Itching and a sensation of smarting had been present since the onset. The Wassermann reaction on the blood and spinal fluid was negative. Treatment with various ointments and lotions had afforded little relief. Internally he had received sodium bicarbonate, magnesium oxid and atropin; Fowler's solution, and recently thyroid extract in 2 grain doses had been administered three times a day. Here and there on the arms and legs were crusts covering ruptured pustules. Most of the surface of the body was covered by lichenification. Some papules had a central adherent crust, most of them smooth. No angular papules were seen and no involvement of mouth or glans penis.

DISCUSSION

Dr. F. E. Senear had seen the patient at the County Hospital and had made a tentative diagnosis of lichen planus and suggested that a biopsy be made. He afterward doubted that diagnosis but now, with a better light than he had had on previous occasions, he felt that a clinical diagnosis of lichen planus could be made and that the histologic specimen agreed with this.

Dr. Tucker agreed with Dr. Senear.

Dr. W. A. Quinn believed it was a case of lichen planus, although he had not seen much in the colored race. There were no lesions on the mucous membrane, but those on the arm seemed typical.

Dr. M. S. Oliver thought it was a case of lichen planus.

Dr. A. W. Stillians did not agree with the diagnosis of lichen planus. He had not found a typical lichen planus papule and the microscopic section did not seem to him indicative of that disease. The infiltration was not sharply outlined, and there were none of the changes in the epithelium that he would expect to find in that disease.
A CASE FOR DIAGNOSIS. Presented by Drs. E. L. McEwen and A. W. Stillians.

A white male, aged 36, entered Cook County Hospital on November 3, complaining of an itching eruption on the legs and thighs, above the pubis, over the buttocks and in the scalp. The lesions first appeared in 1916 as red blotches over the buttocks and around the arms, later spreading to the other localities. At one time there was considerable weeping; itching had always been severe, especially at night. There were many areas of excoration that were weeping, and some crusting was seen. A few pustular lesions were exhibited. There was a history of gonorrhea and of a chancre seventeen years ago. Wassermann reaction was negative. Over the suprapubic region, both thighs and both legs a fairly profuse eruption of discrete follicular papules occurred, many of them covered by blood crusts. Following a series of auto- serum treatments, an eruption of good sized vesicles on the legs and a typical herpetiform patch on the right scapular region had appeared, clearing up shortly thereafter.

DISCUSSION

Dr. Foerster looked on the case as one of infectious eczematoid dermatitis, as reported by Engman and Fordyce.

Dr. O. S. Ormsby thought it was a folliculitis in a skin which was not well cared for, accompanied by a certain amount of keratosis. It was primarily a follicular infection.

Dr. U. J. Wile and Dr. L. C. Pardee agreed with this diagnosis.

Dr. F. E. Senear agreed that the lesions at present were follicular and a good many of them were pustular. He had watched the case for a good many weeks and had found vesicular and bullous lesions on the surface of the thighs. He had felt very much at sea until the man had developed, over the scapula, some lesions that soon became crusted, whereupon he decided that it was a case of dermatitis herpetiformis. The picture at presentation was not as it had been; but there was a great deal of pigmentation, grouping had been present, itching was intense, and there had been frequent recurrences; therefore he felt that it was a dermatitis herpetiformis.

Dr. A. W. Stillians had always felt that the case was one of dermatitis herpetiformis. Most of the time the lesions were follicular but frequently they were pustular. Owing to the intense itching, especially at night, and since the bullous and vesicular lesions had appeared, he thought it would have to be considered an atypical dermatitis herpetiformis.

Dr. Mitchell said that there had been a recent report by Milian on a case of pustular dermatitis herpetiformis. The case had been carefully studied histologically. The blood showed an eosinophilia of 4 per cent. Milian's case was somewhat similar to this one in that the lesions came out in crops. The man had a positive Wassermann reaction, and was given repeated injections of arsphenamin without effect. The case was studied over a long period and the authors satisfied themselves by careful investigation that it was pustular dermatitis herpetiformis, which Duhring always maintained might occur in very rare cases.
GRANULOMA INGUINALE TROPICUM. Presented by Dr. A. W. Stillians.

A negro, aged 32, a jockey, in 1915 had a lesion on the glans penis that appeared as a small papule; this ruptured and spread around the corona. Six months later a swelling in the left groin was noticed which broke down and ulcerated, and had since been gradually spreading along the inguinal fold. In 1918 a similar swelling and ulceration appeared in the right inguinal region and above the pubis and at about the same time beneath and on the scrotum. At the time of presentation on the glans penis was a granulating sore at the corona which extended almost entirely around. The edges were well defined; the granulating area was raised above the skin and bled easily. Similar sores were present in the folds between the scrotum and thighs and in the inguinal region as well as above the pubis. There was no urethral discharge; Wassermann reaction was negative. There was a history of gonorrhea in 1907 and of a chancre in 1908 with no treatment except local applications. The patient said he felt well and was gaining in weight. Nausea, vomiting, night sweats and gastro-intestinal disturbance were denied. He had had malaria at the age of 8; he had had no other illness.

' DISCUSSION

Dr. U. J. Wile was not sure what a tropical granuloma of the inguinal region was and did not know whether it was thoroughly understood in the literature except that it was an eruption in the inguinal region which occurred in the warm climates. In this case, owing to the man's poor physique and his race and the fact that he had not been out of this country, Dr. Wile would want to be sure that he did not have tuberculosis before pronouncing it such a rare condition as granuloma inguinale tropicum.

Dr. Mitchell thought it might be interesting to try out the intravenous injections of antimony tartrate in this case.

Dr. A. W. Stillians said he showed the case because he was still in doubt concerning the diagnosis. Dr. Harris had been very enthusiastic about it. They often had similar cases at the County Hospital, about equally divided among men and women. The ulcers showed hypertrophic granulations and persisted except with vigorous cauterization. Some had been cleaned up by that means. The histology in one case had shown nothing very convincing. A careful search for tuberculosis in this case had revealed nothing indicative of that disease.

FOLLCULITIS DECALVANS AND LICHEN SPINULOSUS. Presented by Dr. O. S. Ormsby.

A man, aged 46, was presented on account of the interesting nature of the disorder as well as because the case resembled three cases that had been reported in England. The first case was reported by Little (Folliculitis Decalvans et Atrophicans, Brit. J. Dermat. 27:183, 1915), another by Dore (Lichen Spinulosus and Folliculitis Decalvans, Ibid., p. 295), and the third by Beatty and Spear (A Case of Folliculitis Decalvans et Lichen Spinulosus, Ibid., p. 331). In the case now presented some of the lesions had been present in the scalp for three years. Three months ago the lesions on the scalp became more active and spread rapidly, and at the same time lesions appeared on the sides of the face, the trunk, arms and forearms. During the past three weeks new lesions had multiplied rapidly. In the scalp on the left side was an area
4.5 by 2 cm. which was completely bald, atrophic and white. According to the patient, this was the earliest lesion. Scattered irregularly over the entire scalp were a large number of pea-sized to fingernail-sized and larger atrophic areas, some of which were erythematous and crust covered. The crusts were dry, yellow and adherent. From their under surface plugs extended which had fitted into the follicles. Some infiltration was present in the crusted areas. Between the grouped atrophic bald spots tufts of hair remained. On the face in front of the ear was a mildly atrophic area in which many keratotic follicles appeared and about which was a brownish pigmentation. On the trunk, both front and back, papules both grouped and discrete were present. Some were millet-seed-sized and reddened. The major portion were smaller, distinctly keratotic, and showed but slight redness. On the flexor surface of the forearms were patches in which spiny papules occurred with practically no inflammatory reaction. Some of these were 5 cm. in diameter and gave a decided nutmeg grater feel to the touch. The patches on the trunk were less abundant and the lesions were more infiltrated. Many of the papules on the trunk presented a brownish tinge. No subjective sensations were complained of.

**DISCUSSION**

Dr. U. J. Wile thought the case was an erythematous lupus, particularly as the man had atrophic lesions in front of the ear which looked as though he might have had that disease. The lesions on the body did not look at all like those on the scalp, and he thought it probable that the man had a dual condition, such as lichen spinulosum, or a grouped disease on the body which was not destructive, and an intensely destructive disease of the scalp. He believed that two conditions were present.

Dr. F. E. Senear was particularly interested in the case because he had a similar one under observation. His patient was a girl of about 22 years, who had had the condition for ten or twelve years. It began with a process in the scalp with some follicular changes; hence the case was follicular decalvans and not pseudopelade. When he first saw the patient the condition looked like pseudopelade, and on the body she had an eruption which was in every way similar to this one except in distribution. The lesions were situated over the scapulæ and over the chest, with scattered lesions elsewhere on the body. The same grouping and same lichen spinulosum characteristics were present. Some of the lesions showed very definitely as comedones, and by squeezing a comedo could be expressed. He had looked up the literature on the subject and these eruptions in association with folliculitis decalvans and pseudopelade he thought were very interesting, because in addition to cases like the one exhibited, there had been cases presenting a picture of folliculitis decalvans on the body. Many years ago Arnozan described a case occurring on the body of a very hairy individual and stated that if it had occurred on the scalp, he would have had no hesitancy in diagnosing it as folliculitis decalvans. He considered Dr Ormsby's case one of folliculitis decalvans of the scalp and lichen spinulosus of the body. As to the scalp lesions in the case under his observation, Dr. Harris had considered follicular lupus erythematosus as a possible diagnosis, but he was unable to see any resemblance.

Dr. A. W. Stillians said he could not see a lupus erythematosus in the patient referred to by Dr. Senear, and he thought Dr. Ormsby's patient was a close parallel.

Dr. W. A. Quinn thought it was a case of folliculitis decalvans and not of lupus erythematosus.
Dr. O. S. Ormsby said he first saw the patient three days before. He was interested to learn that Dr. Senear had a similar case, as that would make at least five of a type that resembled each other. In the first case shown by Little there was marked involvement of the axillae, which had not been present in the subsequent cases. It was interesting to know that in all the cases the scalp condition had existed for many years prior to the development of the lesions on the trunk, having been present for ten years in two instances. He agreed with Dr. Wile that two processes were present. Lichen spinulosus was just as definite a disease as lichen planus, and the lesions in this case were of the type seen in lichen spinulosus as it occurs commonly in children about the neck and upper part of the body. The connection between folliculitis decalvans and lichen spinulosus was difficult to explain.

An histologic examination should be made in these cases to determine their nature. In view of the inflammatory condition in the scalp described by the patient and the present indications of this condition, folliculitis decalvans was the most probable diagnosis. Pseudopelade is always noninflammatory, the first evidence of the disease being the atrophic patches.

LOCALIZED HYPERIDROSIS. Presented by Drs. W. A. Pusey and F. E. Senear.

A white girl, aged 21, presented a lesion on the extensor surface of the right arm and hand. This lesion was an irregularly outlined but sharply defined patch of sodden skin about 5 inches long, whose surface was covered with profuse and rapidly forming perspiration. This lesion began at the age of 11 as a spot about the size of a dollar, and since that time had steadily increased. The sweating was not constant, was more profuse during the day than at night, and was increased by warmth and friction. There was no history of seasonal variation, and there had been periods of freedom lasting from one week to six months. She had been treated with various salves and liquids. There was marked conjunctival and pharyngeal anesthesia, and friends reported that she was nervous and easily excited.

DISCUSSION

Dr. D. Lieberthal said he had a patient about 32 years old who was suffering from hyperhidrosis confined to the right axilla. He was strongly inclined to consider the condition a stigma of hysteria.

Dr. O. S. Ormsby had seen a similar case some years ago, and as he remembered the involved area was on the forearm in about the same location. It was localized asymmetrically, and he had no idea what could produce it. Sutton had reported one case in which the back was involved.

Dr. F. E. Senear thought the patient showed some neurotic symptoms. Aluminum chloride (25 per cent. solution) had seemed to give very good results where other things had failed. It had not cured the girl, but it had reduced the sweating very markedly and she had been free from this condition for some time.

A CASE FOR DIAGNOSIS. Presented by Dr. J. Welfeld (by invitation).

A Russian housewife, aged 45, the mother of six healthy children, six years before had an eruption over the extensor surfaces of the elbows, chest, scalp and fingers. This eruption healed in the spring, leaving scars, and reappeared each fall. Three years ago the cheeks began to enlarge and exhibited a
bluish-red color; this was accompanied by enlargement of the cervical glands. This facial involvement also disappeared each spring to reappear in the fall. The cheeks were firm and infiltrated. The arms, chest and neck showed much scarring and there were numerous nodular and nodulopustular lesions scattered over the chest, elbows and dorsal surfaces of the fingers. There were no subjective symptoms except pain caused by the lesions of the fingers. The Wassermann reaction was +++

**DISCUSSION**

Dr. Foerster was under the impression that the case was tuberculous in character, probably a nodular tuberculosis of the hypoderm, described by Wende.

Dr. D. Lieberthal said that he saw a somewhat similar case several years ago; he thought these cases would fit in the group of Hutchinson's chilblain lupus. He had demonstrated before this Society a case of erythema induratum with tuberculids on the fingers a year ago and in that case the lesions disappeared almost completely in the spring to reappear in cold weather.

**HYPERPIGMENTATION.** Presented by Drs. O. S. Ormsby and Mitchell.

A man, aged 40, presented a disorder which had been present for nine months. The family history was negative; past personal history showed that there had been attacks of indigestion for several years. Three years before a diagnosis of duodenal ulcer was made, since which time large doses of sodium bicarbonate had been taken, as much as 2 drams daily. The stomach condition had shown improvement during the past few weeks.

In February, 1919, a dark discoloration was noted on the face. Shortly afterward a similar condition was detected in other areas. The regions involved at the time of presentation were the face, particularly the upper lip and chin, the entire neck, the axillary spaces, the genitocrural region, the internal surfaces of the thighs, the umbilical region and the flexor aspects of the elbows and knees. The chief change was a pigmentation of bluish-black color. The last two areas showed the least involvement. The sun's rays apparently exaggerated the condition about the neck during the summer, but the most marked areas now present were the axillae and the umbilical region which were not exposed to this influence. There was possibly a slight exaggeration in the lines of the skin in the axillae. No changes were noted elsewhere. The mucous membranes were free.

The histologic section showed a large number of chromatophores both deeply and superficially situated. The pigment cells were of varying shapes. There did not seem to be any loose pigment deposited in any place. The epidermis showed practically no change.

**DISCUSSION**

Dr. U. J. Wile thought every one would agree that the diagnosis of the underlying condition which was producing the pigment was extremely difficult at the present stage of the disease. The thing that struck him most forcibly about the case was the marked resemblance to acanthosis nigricans. The neck, the genitalia and the region around the umbilicus were the sites of election for this disease, but there was no acanthosis in the case presented, and it would be impossible to suggest a diagnosis of acanthosis nigricans in the absence of such thickening.

Another suggestive point was the slightly lowered systolic blood pressure, 118, which might mean that this hyperpigmentation, even though it be defi-
nately symmetrical and not universal, might perhaps be a manifestation of a suprarenal disease. He felt that the case would have to be watched and the diagnosis deferred. The history of duodenal ulcer was suggestive as bearing on the possibility of an acanthosis nigricans associated with malignant disease. He was not sure in his own mind but that some cases of acanthosis nigricans had started with pigment instead of thickening. In the histologic picture of this case, moreover, the pigment was not distributed as it is in that disorder.

He asked whether the patient had been under observation in bed for any length of time with a view to determining whether there was any fever, and whether his general health had suffered.

Dr. F. E. Senear stated that they had seen the patient two or three weeks previously and had arrived at the same conclusion that Dr. Wile had brought out.

Dr. Strong said he could speak only as a histologist. He was struck at first with the color, which suggested a corium pigmentation and examination proved that there were only traces of pigment in the epidermis but an unusual number of melanophores in the corium. The pigment consisted of granules (apparently melanin) which, while irregular in size, were similar in shape. A test made for iron gave a negative result. The color was due to the fact that there were a number of unpigmented epidermal cells in front of the pigmentation and where that occurred there was always a bluish color. He thought this was of no interest except as a diagnostic sign.

Dr. O. S. Ormsby said the chief interest the patient had in his case was in regard to the question of acanthosis nigricans. While he believed the chances were against the development of this disorder in this instance, the matter could not be entirely settled at present. There were some interesting features that should be noted. A duodenal ulcer had been under treatment for three years. In a case of acanthosis nigricans reported by Frick, a duodenal ulcer occurred, on the perforation of which the patient died. There apparently was no malignant complication in that case. In another case reported by Markley an ulcer had been present. Operation revealed nothing in the abdominal cavity in that case, but at a later date there was glandular involvement in the neck and a malignant growth was demonstrated in the pulmonary cavity. The reason for the production of this peculiar pigmentation and the peculiar growths in acanthosis nigricans was not known, and it was just possible that if these serious changes are produced by a malignant growth in the abdomen, that irritation from an ulcer might induct a less marked disorder exhibited only as pigmentation. In this case the urine was being examined for pigment and everything possible was being done to demonstrate the presence or absence of derangement of the suprarenals or other organs.

Dr. Mitchell asked if there was any association with tanning.

Dr. O. S. Ormsby thought the sun had something to do with the color, because in the middle of the back of the neck was a clearer area where the sun had not reached it quite so much.

The Patient stated that he felt better this fall than he did in the early spring or during the summer. He had held his weight, his physical condition had been quite good and he had been able to do gymnasium work three times a week. The color seemed to be accentuated during the summer, but the color always fluctuated, some days being much darker than on others.
Dr. D. Lieberthal thought they should be exceedingly guarded about putting down a diagnosis of acanthosis nigricans, and considered Dr. Wile's remarks apropos. He had seen many outspoken cases and was convinced that this was not an acanthosis nigricans, as there was no definite papillary hypertrophy. He thought the patient was justified in feeling a little more optimistic about his case than he had been inclined to feel before the discussion.

A CASE OF TUBERCULOSIS OF THE SKIN. Presented by Dr. D. Lieberthal.

A child, aged 4, had a lesion in the zygomatic region in front of the left ear. It began to develop nine months before. While it was gradually progressing upward, it was healing in the lower part.

The lesion was a superficial ulceration of bean-size with scant seropurulent secretion and irregular borders. The lower part was adjacent to an irregular distorted scar. The patient was in perfect condition of health otherwise. The Wassermann and von Pirquet reactions were negative. Mild roentgen-ray applications were instituted.

DISCUSSION

Dr. U. J. Wile thought it was a tuberculous lesion.

PSEUDOPELADE. Presented by Dr. A. W. Stillians.

A Polish woman, aged 24, at the age of 12 noticed a bald spot at the vertex. Since then other spots had gradually appeared. At the vertex was a depressed scar ¼ inch in diameter and below it and to the right six other scars, the larger depressed. the small ones about ¼ inch in diameter, white and atrophic. Near the border of the largest scar were several pale papules about ¼ inch in diameter and slightly elevated. The hair was apparently healthy except that many of the long hairs showed rough sections where the hair was twisted and bent.

INFECTIOUS ECZEMATOID DERMATITIS. Presented by Dr. E. P. Zeisler.

A man, aged 26, had an eruption which had been present since May, 1919. Coming home from France he was treated for scabies with sulphur ointment and about that time he received a cut on the hand following which the eruption appeared. The lesions on the brows had persisted since then and consisted at present of circumscribed patches resembling pustular eczema. Syphilis had been present since 1912 and recent Wassermann tests had been positive. The case was presented as an example of infectious eczematoid dermatitis.

DISCUSSION

Dr. F. E. Senear thought it was an infectious eczematoid dermatitis.

A CASE FOR DIAGNOSIS. Presented by Dr. F. E. Senear.

A boy, aged 11, for the past four years had had brownish spots on the body. The first one appeared beneath the left axilla, then elsewhere on the trunk. They had remained unchanged in appearance since the beginning, although they had increased slowly in size for three years. Slight itching was present in the summer time. At the time of presentation over the trunk were several round or oval, dark brown pigmented patches. They were not elevated and there was no scaling and no infiltration.
BLASTOMYCOSIS. Presented by Dr. D. Lieberthal.

A man, aged 63, a cabinet maker, with a negative family and personal history, about four years ago had a small warty growth on the callous skin of the dorsum of the first phalanx of the left thumb. It was treated by various methods without improvement. About a year ago the warty condition started to spread downward over the back of the hand. There were no subjective sensations. At the time of presentation there was a plaque on the dorsum of the left hand which extended over the first phalanx of the thumb, the ulnar part of the metacarpal region and the metacarpal region of the index finger. The outlines of this plaque were round, the center smooth, and the periphery showed warty excrescences on a bluish base; the latter was surrounded by a band of pink, but otherwise normal, skin. Between the warty growths was found from time to time, a pustule which contained the fungus.

A CASE FOR DIAGNOSIS. Presented by Dr. A. W. Stillians.

A woman, aged 55, presented a varicose ulcer on the right ankle which had been present for many years. She had recently returned with a recurrent ulcer with a peculiar, nodular appearance in the surrounding skin.

DISCUSSION

Dr. F. E. Senear thought the change was simply a nodular hypertrophy not infrequently seen in a varicose extremity.

Dr. U. J. Wile agreed with Dr. Senear.

Dr. A. W. Stillians said he once had a case very much like this which turned out to be a beginning Kaposi sarcoma.

A CASE FOR DIAGNOSIS. Presented by Dr. A. W. Stillians.

A Hollander, aged 44, a mechanic, first noticed a small brown spot on the inner side of the right leg three years ago. This had gradually spread, without any subjective symptoms. Two weeks before presentation a blister appeared below the large area, which disappeared leaving a small spot. A pea-sized spot on the left leg had been present for several months. Examination showed an area about 5 by 9 cm. about the middle of the inner side of the right leg; this spot was brown in the center, deep brownish red at the upper and lower parts, was level with the surrounding area and covered with a thin, easily wrinkled skin. About this many pinhead-sized brownish-red macules were situated, which were brown under the diascopic. Below this large patch a similar spot 1 cm. in diameter was located, and at the center of the inner side of the left leg a similar lesion 0.5 cm. in diameter.

DISCUSSION

Dr. O. S. Ormsby said, in reply to the criticism that Schamberg’s disease was not an entity, that it was more strongly intrenched now than ever before and was accepted as an entity all over the world. It was, however, a subacute, inflammatory process which was entirely different from this case. He believed this was a pigmented area due to chronic inflammation.

Dr. A. W. Stillians said that of the three lesions the one below the original one on the right leg was the most recent; it had been of very short duration and had shown no previous inflammation, except that the patient said it began as a blister. He thought Schamberg’s disease the most probable diagnosis. The follicular lesions beyond the area of confluence suggested the primary lesions of that disease.
PHOTOGRAPH OF ORIENTAL SORE. Presented by Dr. J. F. Waugh.

A woman, aged 45, had a lesion on the chin one year before presentation; it looked like the bite of an insect. This small, slightly elevated, reddish spot gradually enlarged to dime-size, and seropurulent discharge was present for several weeks. Similar lesions developed about the same time on the extensor surface of the right forearm and on the cheek. When the patient was first seen the latter lesion was reddened, infiltrated, dry and slightly scaling. An area the size of a silver dollar was markedly indurated. Under radiotherapy by the divided dose method improvement was noticeable in two weeks, and in two months the induration and most of the redness had entirely disappeared.

CHICAGO DERMATOLOGICAL SOCIETY

Regular Meeting, Dec. 17, 1919

David Lieberthal, M.D., President

PHAGEDEXCIC ULCER. Presented by Drs. O. S. Ormsby and Mitchell.

A girl, aged 13, was first seen by Dr. Mitchell in 1917 at the dispensary, where she and her mother were under treatment for syphilis. The mother had marked signs of late syphilis, which included gummas and scars and a positive Wasserman reaction. The patient exhibited no signs of syphilis other than a positive Wasserman reaction. At that time a hard mass was present in the submaxillary region which was uninfluenced by arsphenamin treatment. The blood count showed 8,400 leukocytes and hemoglobin 85 per cent. Several months before presentation she was seen by Dr. Ormsby, at which time the ulcer now present was noted. This developed during the time she was under treatment for syphilis.

The ulcer occupied the entire side of the face, half of the upper lip, half of the chin, and extended over the neck to near the clavicle. It was deeply situated and destructive. It spread peripherally, the edge was elevated, bluish-red, perforated with sinuses and actively breaking down. Treatment had no effect on the ulcer until roentgen rays and the quartz lamp were employed, when healing began. In spite of treatment, however, the ulcer continued to advance.

DISCUSSION

Dr. O. H. Foerster thought the result of treatment was remarkable, showing what can be accomplished by persistent, well directed therapeutic effort. The history indicates that it must have been an extraordinary type of tuberculosis, with a breaking down of all the tissues, and probably a secondary infection to account for the tremendous ulcer. He congratulated Dr. Ormsby on the excellent result he had obtained. It reminded him of a case seen at Camp Gordon several months before, which was diagnosed as sarcoma of the vas. A very large ulcer developed which took off most of the pubic region and the entire scrotum in spite of treatment. The etiology of the condition was never definitely established.

Dr. O. S. Ormsby thought the occurrence of such an ulcer was unusual and the fact that both the patient and her mother had syphilis was a point of added interest. Furthermore, antisyphilitic treatment had no effect on the
ulcer. He had seen two similar ulcers, both of which occurred in men and were situated on the abdomen. These were gangrenous ulcers due to pus infection, spread peripherally, had the same elevated margin and each followed a definite infective process. The ulcer was not a noma but resembled that disorder.

Dr. J. Zeisler asked why it was not a noma.

Dr. O. S. Ormsby said that noma occurred on the mucous membrane and that ruled it out in this case. He felt that gangrene occurring in a syphilitic or tuberculous patient accounted for everything in the case.

NONPIGMENTED LINEAR NEVUS. Presented by Dr. A. W. Stillians.

An American woman, aged 29, married, according to her father, had since early childhood a linear elevation extending from the right corner of the mouth downward and outward, which was more noticeable at some times than at others. The lesion was from 1 to 3 mm. in width and extended from 1.5 cm. below the right angle of the mouth downward and outward 8 cm. It was made up of small, soft papules, many of them follicular, confluent at the center of the line, discrete at the ends and slightly pinker than the normal skin. There were no subjective symptoms. Below the left angle of the mouth was a pigmented nevus 2.5 by 0.5 cm., not elevated, which extended across the jaw.

DISCUSSION

Dr. A. W. Stillians thought the case was particularly interesting because of the fact that a pigmented nevus was present in about the same location on the other side, extending downward from the corner of the mouth.

LUPUS ERYTHEMATOSUS. Presented by Dr. A. W. Stillians.

A married woman, aged 29, had always been well until she was operated on for pus tubes in 1916. Since then she had experienced frequent pain in the right side. One uncle died of tuberculosis; the family history otherwise was negative. In January, 1919, a pimple appeared on her right ala nasi and slowly enlarged. During the summer when the patient was tanned it became smaller, but recurred in the fall.

The lesion was a soft, elevated nodule, 2 by 1 cm., situated on the right ala nasi; it was dark red, fading on pressure. Very small, adherent scales were present in a few places.

DISCUSSION

Dr. E. L. McEwen stated that a patient in the County Hospital had been treated with quinin and iodin with excellent results.

Dr. W. A. Pukey thought there was some difficulty about the diagnosis. The patient had some indolent, inflammatory lesions on the side of the nose. If Dr. Stillians had watched the case for some time he was willing to accept the diagnosis of lupus erythematosus, but he would not make that diagnosis from a cursory examination. The few rather prominent nodules on the tip of the nose might obscure the picture.

Dr. A. W. Stillians stated that he had used Cutler's fluid with good effect on the patient at the County Hospital. This case was hard to diagnose because there was no central scarring. He thought the fact that she improved so much during the summer when she was tanned might explain the good effect of actinotherapy.
SARCOID. Presented by Dr. O. S. Ormsby.

A woman, aged 49, was presented before the Society in January, 1919 (J. Cutan. Dis. 37:543 [Aug.] 1919). The disorder had advanced considerably since that time. The nodules and plaques had enlarged and now occupied more of the surface on the cheeks below the eyes. The nose was broadened and thickened and had pronounced, hard, immovable masses over the nasal bones. On the right cheek there was a large, deep plaque formed of nodules. The skin over both cheeks was becoming telangiectatic and bluish-red, and there was prominent edema of the lower eyelids.

The histologic section showed the process to be deeply situated where groups of cells, including giant cells, were seen enclosed in a connective-tissue capsule. A full report of this case is to be made.

DISCUSSION

Dr. W. A. Pusey thought the interesting point about the case was the marked improvement under arsphenamin treatment.

Dr. J. Zeisler asked Dr. Ormsby what his opinion was regarding the relation of sarcoid to syphilis.

Dr. O. S. Ormsby said there was no question about the immediate improvement of this patient under treatment with arsphenamin. He believed these cases improved slowly under arsenic and that the best method of treatment was the long-continued administration of this drug. This patient had taken the Asiatic pill and Fowler's solution for a year without benefit, and it was for this reason that she had recently been given four injections of arsphenamin, which produced some improvement. In his opinion some cases of sarcoid were manifestations of syphilis, and it was this type that had responded to antisyphilitic treatment. Others were of tuberculous origin.

Dr. A. W. Stillians stated that a patient whom he had exhibited several months ago, in whom the appearance was that of a deep sarcoid, and in whom the histologic examination gave the same findings, had cleared up under mercury and iodid. He asked whether Dr. Ormsby thought that if the sarcoids cleared up under arsphenamin treatment it was an indication that they were syphilitic.

Dr. O. S. Ormsby replied that he believed the cases that had been reported as sarcoid and that had cleared up under arsphenamin were syphilitic.

CHANCROE OF CHIN. Presented by Dr. E. W. Potthoff.

A man, aged 46, had had the condition for nine weeks. He was first seen by Dr. Potthoff two weeks before, at which time there was an ulcer on the chin and a pronounced involvement of the submental glands. There was also a slight pigmentation on the forehead. The Wassermann reaction was ++++. He had received three injections of arsphenamin and two of bichlorid with marked improvement. There was no history of exposure; the patient had always shaved himself. When first seen he had scabies, which ran into the other lesion.

Feb. 2, 1920: The condition on the chin had cleared up under specific treatment. The patient was still receiving treatment.

DISCUSSION

Dr. O. S. Ormsby asked how long the primary lesion had been present, and how long it had been since the arsphenamin had been given.
Dr. E. W. Pothoff stated that the lesion had been present for nine weeks as a large mass on the chin. There had recently been some improvement. His first arsphenamin treatment had been given ten days previously.

Dr. O. S. Ormsby thought there might be some other process in addition to syphilis as the lesions of the latter usually clear up in from nine to fourteen days after arsphenamin treatment. Perhaps a pus infection had been added to the syphilitic lesion.

CASE FOR DIAGNOSIS. Presented by Dr. M. S. Oliver.

A dentist, aged 34, presented an eruption of the scalp which extended on to the forehead. This condition had been present for several years, never entirely clearing up, although antiseptic ointments had given temporary relief.

DISCUSSION

Dr. J. Zeisler said that this was a patient of his father's several years ago, and although there were several negative Wassermann tests, he had made a diagnosis of syphilis. There were lesions on the nails at that time which cleared up under antisyphilitic treatment. Whether he had had syphilis or not he did not know for he had not seen the patient when the lesions on the nails were present. Dr. Zeisler's own impression was that the lesions on the scalp and forehead were acne varioliformis. He thought the scars on the scalp were remarkably uniform in size for scratch marks.

Dr. W. A. Quinn thought the scars on the forehead were strongly suggestive of syphilitic trouble. He might have a decalvans which was still active.

Dr. F. E. Senear was impressed with the case as acne varioliformis and thought Dr. Oliver's description fitted that condition. The eruption did not look like folliculitis decalvans to him, and he had never seen that condition occur with such lesions as were present in this case.

Dr. W. A. Pusey asked if there were any lesions elsewhere.

Dr. M. S. Oliver replied that all the active lesions were situated in the scalp.

Dr. W. A. Pusey thought one saw a good many cases with excoriations like those in the scalp and there might be excoriations on the bald skin also. Perhaps the man had an oily scalp, perhaps a seborrhic dermatitis, an itchy scalp and perhaps he was a nervous dentist. He was not at all sure that the condition was not one of excoriations in an itchy scalp, like an excoriated acne. He had recently seen a case of this kind in a young girl. She had absolute anesthesia of the larynx and conjunctiva and excoriated lesions. He offered the diagnosis of excoriations of the scalp due to scratching.

Dr. O. H. Foerster looked on the disease as acne varioliformis and thought the scar of the former lesion on the nose and the scars in the temporofrontal region and just above the ear were of the kind found in that disease—punched out, round and very slightly depressed.

Dr. O. S. Ormsby had seen a number of cases that had similar lesions in the scalp that were due to the causes mentioned by Dr. Pusey. Dr. McEwen had shown such a case some years ago. He thought the lesions on the temple suggested acne varioliformis.

Dr. A. W. Stillians considered it an acne varioliformis because of the scars. He had had two cases such as Dr. Ormsby mentioned with superficial pustules that were sometimes quite profuse but never left any scars. He had examined one recently and had found a pure culture of the bottle bacillus. He thought the lesions were not caused by scratching but by pustules that ruptured.
easily. These were the common punctate lesions with crusting, occurring now and then in cases of dandruff.

Dr. D. Lieberthal asked whether any active lesions had appeared on the forehead recently. He saw the patient five or six years before and thought no lesions had appeared on the forehead since that time. Undoubtedly the lesions on the scalp were entirely different from those on the forehead. It was sufficient for a staphylococcus to cause pustules, and they were often seen in the scalp in a seborrheic condition.

Dr. M. S. Oliver stated that he had first seen the patient four or five days before. The patient stated that the lesions appeared in groups; they were distinct papulopustules and continually recurred, with or without treatment. There were very few subjective symptoms, but the patient could not help feeling that the lesions were present. The condition impressed Dr. Oliver as being acne varioliformis.

CASE FOR DIAGNOSIS. Presented by Dr. E. W. Potthoff.

A man, aged 39, who was seen for the first time on the day of presentation, presented a lesion of the lower eyelid which he said had been present for several years. He had just recovered from an operation for tuberculous epididymitis and there was said to be a condition in the lung which was suggestive of tuberculosis.

The lesion was elevated and hard, which suggested an epithelioma, but with the tuberculous history it was necessary to make a differential diagnosis.

DISCUSSION

Dr. W. A. Pusey said that if a diagnosis of epithelioma had been conclusively made he would have agreed to it, but it did not look like any epithelioma of the lower lid that he had ever seen. He thought it might very well be a tuberculous ulcer, or it might possibly be a destruction of the lid from infection from a simple pus organism. He did not think it was blastomycosis.

Dr. Mitchell said that the pearly border and sharply demarcated line led him to believe that the lesion was an epithelioma such as was occasionally seen.

Dr. O. S. Ormsby said he had under observation at the present time two cases of epithelioma of the lower lid which closely resembled the one under discussion. In one of these cases the destruction had been more severe. Both presented peculiar semitranslucent nodules such as were seen in this case, and the diagnosis of epithelioma was confirmed by long observation. He believed in the present case the lesion was an epithelioma, but the possibility of tuberculosis was to be considered, although he had never seen tuberculosis of the lower lid.

Dr. F. E. Senear thought the case looked like tuberculosis more than any other condition. He thought an epithelioma involving the conjunctival tissue would have progressed much more rapidly than had the lesion in this case.

Dr. E. W. Potthoff stated that the patient had had tuberculous epididymitis and some lung trouble. The question of blastomycosis had come up because cases of that disorder were seen which looked something like this. The healed lesion made one think of a blastomycosis at the corner of the eye which
had failed to heal along the margin of the lid. He would try to get a histologic section.

ACNE. Presented by Dr. J. Zeisler.

A boy, aged 16, a shipping clerk, had a pustular eruption on the back, chest and face, which had been present for about a year and resisted treatment.

He was presented so as to show an abnormally severe type of acne in an anemic boy.

**DISCUSSION**

Dr. W. A. Pusey thought the case was well worth showing because of its extraordinary intensity. He thought there were two elements in the case—the abnormal development of the sebaceous glands and more or less cachexia.

Dr. E. L. McEwen had never seen so severe a case and thought perhaps there might be a slight goiter, or a thyroid factor prolonging the disorder.

Dr. W. A. Quinn thought it was unusual to see a case of that severity in a boy of 16 years. The amount of destruction was very rapid.

Dr. A. W. Stillians asked what part the thyroid might play in such a case.

Dr. E. L. McEwen said in reply to Dr. Stillians' question that in a person with such a severe disorder there must be a great deficiency in resistance to ordinary pus organisms. What caused this loss of resistance was the question and he thought that in dealing with it one should not fail to consider the ductless glands. It was merely a suggestion—he had no theories to formulate.

Dr. J. Zeisler asked for suggestions as to treatment.

Dr. D. Lieberthal said he had a similar case in a boy of 14 years who was one of a series of patients with this condition that he had seen. Some of the cases did not impress him as being pure acne. The cases were refractory to any form of treatment and simulated to some degree an actinomycosis. He did not offer this as a diagnosis but thought there must be something definite there. He suggested that the case be watched clinically and the contents of the lesions ascertained if possible. He put his patient on iodid of potassium in increasing doses, because he thought there might be an etiologic factor similar to that of actinomycosis, and he got wonderful results.

Dr. O. S. Ormsby thought that quinin might be of benefit in the case.

PERSISTENT ECZEMA. Presented by Dr. D. Lieberthal.

A young girl, who had been presented before the Society on several occasions within the last three years, had a copious eruption of bulbous lesions and oozing surfaces on scalp, neck, ears, armpits and groins and to a lesser degree on various other parts of the body. When she came under Dr. Lieberthal's care at the Michael Reese Hospital about ten months before the same symptoms were noted. For months she was seen by him every few days, but no improvement was observed. He decided then to see her daily and to ascertain whether the treatment was carried out. Under plain aluminum acetate solution and Lassar's paste the skin of the patient cleared up completely within sixty days. The patient had been well since about August 1, but a few days before presentation she called again complaining of swelling and itching of the pubes.

**DISCUSSION**

Dr. E. L. McEwen thought the result secured in this case was remarkable because the patient had been in a very bad condition at the County Hospital.
The case had been placed in the group of pustular seborrhoeic dermatosis and had proved very resistant to treatment. To have cleared her skin and scalp as completely as it was cleared was a wonderful result, but he thought the condition was now recurring in the pubic region.

Dr. D. Lieberthal said the trouble had recurred on the pubes three weeks previously, but under the same treatment which was administered at the Michael Reese Hospital it improved rapidly.

Dr. W. A. Quinn thought the aluminate acetate was the successful agent in the case, but Dr. Stillians said he had used it at the County Hospital with little or no effect.

Dr. A. W. Stillians stated that they did not get much effect from any treatment at the County Hospital, although they had tried many forms.

Dr. D. Lieberthal presented the case with no intention of criticism of the treatment administered by her former physicians, but in order to show how even simple measures would produce results if carried out persistently and according to instructions.

MACULAR ATROPHY OF SKIN. Presented by Dr. A. W. Stillians.

An American woman, aged 27 years, had first noticed a grayish spot about the size of a five-cent piece on her right knee eight and a half years before. Other spots gradually appeared under the left breast, on the right elbow, on the left thumb and in various other places. Before being operated on for an appendicitis and tubal pregnancy in May, 1918, she had been much less stout than at the time of presentation. She had been married eight years and had one child, aged 6. There was a history of two miscarriages, late in pregnancy, after the birth of this child, and the operation above noted.

The patient was quite stout and of rather pasty complexion. On the scapular region were three round macules 1½ to 2 cm. in diameter, light brown and slightly depressed. These were the most recent lesions. In the lumbar region, buttocks, hips and thighs, were many similar lesions ranging from less than 1 cm. to 7 cm. in length and varying in width. They were oval, linear or irregular in shape, dark brown, more or less depressed and sharply defined. Only one showed infiltration, and that was small and scar-like, in the center of the most depressed lesion on the left lower lumbar region, near a linear scar 2.5 by 0.5 cm. Several of the older lesions about the knees had a peculiar watered silk sheen. Urine and blood were normal, except for a weakly positive Wassermann reaction on the blood.

DISCUSSION

Dr. O. H. Foerster said the lesions on the back were only slightly atrophic and slightly reddened, with a peculiar pigskin-like appearance which to him at once suggested scleroderma. When the lesions on the thighs and knees were seen the case was quite clearly scleroderma.

Dr. W. A. Quinn considered the case very interesting. The lesions on the back did not feel like scleroderma. He thought from those lesions alone one could not make the diagnosis, but the leg lesions made the case definite.

Dr. E. W. Potthoff thought it was scleroderma.

Dr. O. S. Ormsby thought the atrophic stage of the case was instituted earlier than any case he had seen, but believed this atrophy could be accounted for entirely by the local sclerodermatous process. It was not idiopathic or linear or macular.
Dr. W. A. Pusey considered the case very interesting. The lesions on the knees and thighs gave the picture of scleroderma, but without those he would not know what to call it. He thought the reason the lesions were so confusing was because the girl had deep layers of fat and the lesions of morphea were sunk down in it and confused the picture. Until they reached the legs where the flesh was more tense the case was not at all clear.

Dr. A. W. Stillians thought the lesions on the legs looked like scleroderma, but he did not think he could make a diagnosis of scleroderma without any induration or thickening. The latest lesions on the back were not thickened.
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THE PATHOLOGY OF CONGENITAL SYPHILIS*

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NEW YORK

In dermatologic practice the opportunities for postmortem investigation are infrequent and clinical observations are limited largely to a consideration of the appearances presented by lesions occurring in a single organ, the skin.

In a field thus restricted, it is not surprising to find a natural tendency among those of us who confine our activities to the dermatologic branch of medical art to overlook the importance of studying disease from the point of view of its effects on the body as a whole, and to content ourselves with the mental picture of a pathologic process obtained from the visualization of its external manifestations in one organ only, while we neglect to take into consideration the equally important pathologic changes that may be taking place in those organs or tissues which are beyond the realm of external inspection.

The case that forms the basis for this presentation serves to illustrate the importance of studying disease from the broad point of view of the general pathologist, for in it we find not only characteristic lesions in the skin, but in practically every organ of the body. We have, in short, the opportunity of studying at first hand the majority of the anatomic changes that have been described as occurring in congenital syphilis, with the additional interest and satisfaction of having been able to demonstrate the infective organism in the tissues.

It is a widespread belief that Spirochactae pallidae can always be demonstrated in the material obtained at necropsy in cases of congenital syphilis, but such a belief does not find support from the observations of many pathologists who frequently find it impossible to demonstrate the infective organisms even when the clinical histories,

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pathologic findings and Wassermann test all point to the diagnosis of syphilis. Noguchi has frequently found it difficult to demonstrate spirochetes in the tissues at necropsy, and he refers particularly to the few organisms found and the difficulty of their demonstration in cases of syphilitic infants who lived a few days after birth. Clark and Gates with a wide experience in the Canal Zone, were unable to find the organisms in the majority of their cases examined postmortem, and Norris states that frequently they are not found, and that this may be due in some cases to the effect of antisyphilitic treatment on the mother. It was the experience of Levaditi, who holds the distinction of being the first to demonstrate spirochetes in congenital syphilis, that the organisms could not be demonstrated in those cases in which there was advanced maceration—an observation which indicates their destruction by autolysis. The experience of others also lends support to the view that the organisms of syphilis do not survive long in the presence of autolytic ferments. Warthin does not attempt to demonstrate spirochetes in the tissues unless the necropsy is conducted within an hour or so after death. And in this connection it is significant that in the case under study, in which the necropsy was not performed until thirty-six hours after death, although anatomic lesions characteristic of syphilitic infection were found in the tissues of almost every organ, the most painstaking examination following the method of Levaditi failed to reveal the presence of spirochetes except in the membranes of the brain which, according to Dunlap, are often very resistant to the autolytic process.

REPORT OF A CASE

History.—A girl of 7 months' development was born of a mother who gave a history of perfect health. There was no history of abortion and no evidence of syphilis in five children previously born. During the summer of 1918 (about June) the husband had a genital sore and "red spots" on his arms. The mother denied emphatically ever having had any sore, rash or symptoms that might indicate syphilis. Her Wassermann reaction (tested in three different laboratories) was + + + + both with alcoholic extract and cholesterolized antigens. The syphilitic infant was born in August, 1919, and died after a few inspirations.

Examination.—On external inspection at the time of delivery a rose-colored macular eruption was observed on the skin of the limbs and trunk and bullous lesions and denuded areas (the remains of ruptured bullae) were present on the soles of the feet, palms, wrists and fingers. A few of these bullous lesions can still be seen on the preserved specimen, but the macular eruption disappeared, as most skin lesions do, shortly after death.

LITERATURE ON TYPE OF ERUPTION IN CONGENITAL SYPHILIS

In regard to the type of eruption usually present in congenital syphilis of the infantile type, various writers have reported different findings. In an observation of 100 cases, Veeder and Jeanns 7 found an absence of bullous lesions in all their cases, and in 48 per cent. they report the presence of an eruption which was largely an exfoliative or desquamative dermatitis involving the soles of the feet and palms of the hands, the skin beneath the scaling epiderm being "red and glistening." These authors claim that this type of eruption, which in their series was far more frequent than the macular or maculopapular form, is the most characteristic form of skin lesions, and it is never seen in any other condition. Post 8 has found the maculopapular lesion and a peculiar shiny redness of the palms and soles to be the most common type of skin change, while Sequeira 9 states that the bullous eruption is the earliest type of cutaneous manifestation. Stelwagon 10 records the observation that when the skin manifestations are present at birth they are of the bullous type, while in those cases in which the eruption does not appear until several weeks after birth, it usually assumes the maculopapular form, which does not differ in appearance from the same type of lesion encountered in the acquired form of the disease. Highman 11 believes that the type of skin lesion is an indication of the stage of development of the fetus at the time of its infection in utero; if the infection, for example, occurs about the fifth month of intrauterine life, the eruption will consist of papular or bullous lesions on the palms and soles, but if it is delayed until a latter period, say the seventh or eighth month, the skin changes will be those of the early

10. Stelwagon, H. W.: Diseases of the Skin, Ed. 6, 1916, Philadelphia, W. B. Saunders Company. The age of the patients observed by Veeder and Jeanns ranged from 1 month to 6 years. It is not stated whether any of the lesions were observed at birth.
secondary stage. While this is a plausible assumption, and probably holds true in a large number of cases, the findings in many cases would indicate that there are probably other determining factors. The skin appearances in Veeder and Jeann's series, which are remarkable in that they were contrary to the teachings of modern textbooks, certainly do not meet the conditions imposed by Dr. Highman's theory.

Fig. 1.—Section of skin from a bullous lesion of the palm; low power. Showing separation of the corneum from the prickle layer by serum and some fibrin, edema and collections of round cells and polymorphonuclear leukocytes in the papillae; proliferation of fibroblasts in the corium.

EXAMINATION OF THE ORGAN

Two sections of skin were taken for microscopic study — one from the palm cut so as to include a bulla, and the other from the breast cut through the nipple. In the first section (Fig. 1) the principal feature
was edema of the malpighian layer and a cellular exudate in the papillae composed largely of polymorphonuclear leukocytes and a few lymphocytes. In the subcutis many of the arterioles showed marked proliferation of the intimal connective tissue, in some instances resulting in obstruction of their lumina (endarteritis obliterans). There was nothing in the histology of this section, excepting the changes in the vessel walls, characteristic of syphilis, but the specimen taken from the breast showed the presence of the usual round and plasma cell perivascular infiltration.

Fig. 2.—Section of subcutis showing obliterating endarteritis of the arterioles—below and to the right transverse sections of nerve fibers.

There was nothing abnormal in the gross appearance of the heart. The valves were free and there was no evidence of aortitis or change in the pulmonary artery. In this connection it is of interest to note that the heart and large vessels do not always escape infection. Flament\textsuperscript{12} reports a case of right side hypertrophy and endocarditis of the mitral valve.

and tricuspid valves, and Fordyce quotes Rach and Wiesner as having found changes in the aorta and pulmonary artery in 67.4 per cent. of cases of congenital syphilis.

The lungs were massive, heavy, firm and presented a gelatinous grayish-white appearance. The parenchyma was mottled throughout with solid patches of a deeper white color. Histologically, these patches consisted of cellular embryonic connective tissue diffusely infiltrated with plasma cells and endothelial leukocytes. The patches were usually around the bronchi. The lumina of the bronchioles were filled with serum, fibrin and polymorphonuclear leukocytes. Here and there were solid patches of another type characterized by distention of the alveoli with desquamated epithelial cells, but these were few in number. Everywhere the alveolar walls were greatly thickened by cellular

Fig. 3.—Lung: (1) Interstitial fibrosis especially round the bronchi and vessels; (2) desquamation of epithelium in alveoli and bronchi.

fibrous tissue of the embryonic type. There was also marked thickening of the vessel walls and the lumina of some of the arterioles had been completely obliterated by proliferation of the connective tissue cells of the intima (Figs. 3 and 4). The visceral pleura was markedly thickened and presented a picture which, as far as I am aware, has not been described in syphilis before, namely, the presence in distended lymph vessels of numerous large phagocytic cells holding lymphocytes in their cytoplasm (Figs. 5 and 6). Occasionally, cells of the same nature were found in lymph vessels of the lung tissue. The picture was strikingly similar to that seen in typhoid fever. Levaditi has observed phagocytes filled with the parasites, but they were in the alveoli. Large mononuclear cells were present in the alveoli in this case, but they were of an entirely different type from that of those seen in the lymph vessels, and are undoubtedly alveolar epithelial cells.

The pancreas was slightly enlarged, of very firm consistency, and on section presented a grayish-white color. Microscopic study of the sections (Fig. 7) revealed the presence of similar interstitial changes to those described in the lungs. The picture was that of an intralobular pancreatitis, the marked hyperplasia of the interstitium causing a wide separation between the individual acini. It is interesting to note, however, that the acini, though small from compression, were perfectly formed and well preserved. The islands of Langerhans were apparently normal in structure and number. Such changes probably represent the most commonly found type of reaction to the toxin of the spirochetes in pancreatic tissue, but it must be remembered that this (intralobular pancreatitis) is not always the type of change found. Recently Dr. Ewing showed me a pancreas literally peppered with gummatous lesions. Another point of interest in connection with syphilis of the pancreas, and the same is true of the lungs, is that these organs, while they are frequently involved in congenital syphilis, are rarely attacked in the acquired form of the disease.

The liver was apparently very large, but it must be remembered that at birth the liver normally occupies the greater part of the abdominal cavity, and constitutes from one-twentieth to one-eighteenth of the body weight. Microscopic examination of the liver tissue showed the sinusoids packed with hemopoietic elements — myeloblasts, nucleated red cells, etc.—an appearance suggesting a retardation of development and continuation of fetal function. There was marked edema — in some areas giving the appearance of interstitial change — but compared with the lungs and pancreas the interstitial changes were very slight, the chief histologic feature here being the presence of a round and plasma cell infiltration in the connective tissue of the portal systems (Fig. 8).
Pathologists are for the most part of one mind in regard to the appearance of the spleen in congenital syphilis. Ewing, Councilman and others claim that enlargement of the organ is one of the most frequent findings, and Veeder and Jeanns assert that an enlarged spleen occurring in an infant under 6 months without symptoms of an "exudative diathesis" means always either tuberculosis or syphilis. In the case under study the organ was greatly enlarged and of a firm consistency. A study of the microscopic anatomy (Fig. 9) showed replacement of

Fig. 4.—High power showing thickened alveolar walls.

the pulp by numerous plasma cells and proliferated reticular cells, the latter acting as phagocytes and frequently showing many lymphocytes in their cytoplasm. Examination of the lymph nodes, especially those in the region of the pancreas, revealed a histologic picture very similar to that of the spleen. Histologic study of the kidneys showed a round and plasma cell infiltration in the interstitial tissue of the cortex, especially underneath the capsule.

On opening the skull, the dura, bone and brain substance in the region of the orbital plates and frontal eminences were found to be involved in one gummatous mass (Fig. 10). In the right temporal fossa there was a circular yellowish-gray area of gummatous osteitis, which was not connected with the membranes, the dura over this area being perfectly smooth and glistening—an appearance which would indicate that this bone lesion did not originate as a result of extension of the inflammatory process in the pia arachnoid. There were other necrotic lesions scattered over the internal surface of the base of the skull, and as many of these were especially prominent over centers for ossification, it would appear that the syphilitic organism has a selective affinity for the growing centers. The skin was dissected from the nasal bones, but no abnormal features were observed.

Sections of the meninges stained by Levaditi's method revealed the presence of numerous *Spirochaetae pallidae* (Fig. 11). With the
hematoxylin and eosin stain the histologic picture presented an appearance which indicated the presence of two distinct types of reaction (Fig. 12). There was an inner layer of pia arachnoid where the predominating pathologic change was represented by the presence of proliferated fibroblasts and a slight exudate composed of a very small number of lymphocytes and plasma cells and a second or outer layer which presented the appearance of an acute meningitis of nonsyphilitic origin superimposed on the more chronic syphilitic process, a condition which sometimes occurs in cases of adult syphilis, e.g., general paralysis (Dunlap⁶). As a further aid to our study of the histologic changes occurring in syphilis of the meninges, I am able, through the kindness of Dr. Dunlap,⁶ to show here (Fig. 13) a section from one of the first cases of adult syphilitic meningitis, in which Spirochaetae pallidae were demonstrated. It was a case of gummatous meningitis with the typical so-called endothelial leukocytes, an occasional phagocyte (rare

Fig. 6.—High power of a dilated lymph vessel in interlobular septum of the lung. The red cells which are present have been carried there from the sinusoids of the inflamed lymph node.
in syphilis, but common in tuberculosis of the meninges) and giant cells that might easily be mistaken, if one attempted a diagnosis on their anatomic appearance alone, for the giant cells of tuberculosis.

The line between the epiphyses and diaphyses of the long bones presented on section a perfectly even, smooth, pearly gray appearance, the histologic examination of which revealed nothing abnormal. This absence of epiphyseal involvement, according to the findings of many eminent pathologists, is exceedingly rare. Ewing \(^\text{14}\) has found it pres-

![Image](pancreas.png)

Fig. 7.—Pancreas. Intra-lobular fibrosis. Acini widely separated by young edematous fibrous tissue.

ent in all cases which he examined postmortem, and considers it of diagnostic value, even when other characteristic lesions are absent. Jorres \(^\text{16}\) has had a similar experience, and MacCallum \(^\text{17}\) states in his textbook on pathology, that osteochondritis is "a characteristic lesion

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found practically always in syphilis of the new-born.” The placenta was thick and of firm consistency, the villi were well preserved. The maternal portion showed numerous areas of necroses, leukocytic infiltration and thrombosis in the blood vessels, but whether these changes can be attributed to a specific infection is uncertain. Examination of the remaining organs, suprarenal glands, etc., did not reveal any changes worthy of note.

Fig. 8.—Liver: (1) Periportal lymphocytic and plasma cell infiltration; (2) blood islands in sinusoids; (3) some young liver columns—cells with deeply chromatic nuclei and little cytoplasm.

TRANSMISSION FROM PARENT TO OFFSPRING

Formerly, practically all syphilographers believed that the father was able to convey the disease to the offspring without the mother becoming infected, and it must be admitted that before the days of the Wassermann reaction, the evidence in support of this view was abundant. Syphilitic children were born to mothers who were free from all clinical signs of the disease and apparently immune to infection. The suckling syphilitic child could infect its wetnurse, but could
not give the disease to its mother (Colles’ law), and even when these mothers were injected with syphilitic material, which was done by Caspary 18 in several instances, they failed to acquire the disease. But with the advent of the Wassermann test the chief argument in support of the theory of direct paternal transmission has fallen to the ground, for it has been shown that 95 per cent. of these mothers have a positive Wassermann reaction, and Baich, Trinchesse and Weber “constantly found spirochaetae in the maternal portion of the placenta and in the intervillous spaces even in negatively reacting women.” 19 With these revelations the pendulum has swung around so that the great majority of present day authorities believe that all mothers of syphilitic infants have the disease themselves and that transmission to the offspring is solely a question of placental infection.

There are those, however, who still maintain that the disease may be conveyed by direct germinal transmission from the father. Some of the advocates of this view are not willing to accept the Wassermann reaction as a deciding factor, and they even deny the diagnostic reliability of the test. As an illustration, take the following quotation from Wile, 19 who claims that the majority of congenital syphilitic children receive their infection directly from the father:

It is an accepted fact that there is an interchange of immune substances between the maternal and fetal circulation. A Wassermann positive mother, therefore, may receive her complement binding substance by filtration of these substances through the placenta, from her infected product of conception.

This theory, first set forth by E. von Düring, 20 not only involves the erroneous assumption that the Wassermann reaction indicates the presence of immune bodies, but also is inconsistent with numerous well established facts.

The substance that gives the Wassermann reaction is not a specific immune body. The presence of the specific immune body of syphilis is elicited by the luetin reaction, and the Wassermann reaction is never regarded as an indication of immunity, but rather of the presence of active syphilis that needs further treatment. When the patient is in a state of cure his Wassermann reaction is negative, but the luetin reaction may be positive.

Furthermore, even if we should admit that the substance in the blood causing the Wassermann reaction is an immune body, the


immunity conferred on the mother, according to this theory, would be a passive one and should disappear shortly after the supply from the fetal blood is removed, which, as is well known, does not happen. On the contrary, women who give birth to syphilitic children remain Wassermann positive indefinitely.

And here it may be interesting to recall those cases in which simultaneous examination of specimens of the mother's and children's blood reveals in the former positive and in the latter negative reactions.

Fig. 9.—Spleen: Pulp replaced by proliferated reticular cells, plasma cells and endothelial leukocytes, many of which are engulfing lymphocytes.

For example, it has been demonstrated repeatedly that syphilitic infants born of Wassermann positive mothers may give negative Wassermann and luetin reactions. DeBuys and Maud Loeber, 21 in a study of foundling children with the view of determining the incidence of congenital syphilis, found negative Wassermann reactions in 106 children ranging

Fig. 10. Internal surfaces of frontal bones and internal surface of base of skull showing areas of gummatous ostitis (yellow areas).
in age from 1 month to 6 years, and these investigators claim to have proven that eighty-six of these children were syphilitic. The objection may be raised that the routine medical care of the new-born in this institution is the administration of gray powder, but in spite of this fact I feel that those who have had experience in the treatment of syphilis, especially the congenital type, will be inclined to share the opinion that a few doses of gray powder are not sufficient to change the Wassermann reaction. Kolmer 22 reports negative reactions in fifty-seven of eighty-eight children born of syphilitic mothers and examined at birth. Of those giving a negative reaction, forty-two showed no symptoms of syphilis during a period of three months of observation. Two died with evidence of syphilis in the internal organs and thirteen developed

Fig. 12.—Section of meninges showing outer layer of acute inflammatory exudate superimposed on the specific proliferative meningites.
symptoms after birth and gave positive reactions. Weber 23 also found a large number, about 50 per cent., of syphilitic infants giving a negative Wassermann reaction, and Dr. Sweeney,24 who has been kind enough to consult for me the records of the New York Foundling Hospital, frequently finds the coincidence of negatively reacting children and positive mothers. In these circumstances the mothers could not have received either immune bodies or the elements that produce the Wassermann reaction from their unborn children.

In opposing the view that the fetus receives the disease from the mother by way of the placenta, Wile 19 states that “Clinical evidence shows bacterial infection through the placenta to be rare, that the fetal blood is not ordinarily infected in sepsis of mother, and this is true not only of ordinary infections, but also of typhoid, malaria, septicemias,” etc., and therefore, by analogy he argues that spirochetes rarely pass from the maternal blood to the fetus unless there is a break in the placental circulation, such for instance as that which occurs at the time of birth. In answer to this it may be said that we should not carry reasoning by analogy too far. Congenital tuberculosis, for example, by whatever mode of transmission, is rare; congenital syphilis, on the other hand, is common. Consequently, we must draw our conclusions from observations made on cases of syphilis of which, unfortunately, we have an abundance. Fournier,25 who admits the fact of germinal transmission through the father, in his extensive tables gives statistics which show that transmission by the mother alone is more than twice as frequent as is the so-called paternal transmission. Thus when the transmitter is the father alone the morbidity (“Nocivite”) is 37 per cent.; when the transmitter is the mother alone, the morbidity is 80 per cent., and when both parents are syphilitic the morbidity is 92 per cent.

Wile’s claim that syphilis of the maternal side of the placenta is practically unknown is not supported by the experience of other observers. Weber 23 states that not only are the lesions on the maternal side of the placenta, but also that spirochetes are invariably found in the maternal blood, and Trinchesse and Weber 26 have demonstrated


24. M. J. Sweeney is house physician of the New York Foundling Hospital.


histologically the passage of the organisms from the maternal blood spaces through the syncytiurn, thus proving the migration of spirochetes from mother to child.

It would seem, therefore, that there is a convincing array of facts in support of the theory that at least in the great majority of cases of congenital syphilis the mode of transmission is through the mother. Nevertheless, we are still confronted with the difficulty of explaining the route of infection in a small percentage of cases of mothers (about 5 per cent.) bearing syphilitic offspring in whom there is not a par-

Fig. 13.—Section of adult syphilitic meninges showing gumma, typical Langhans' giant cells and perivascular round cell infiltration.

ticle of evidence of the presence of syphilis on the basis of either clinical or laboratory findings. Veeder 27 observed six such cases over a period of ten years, and Fordyce 28 refers to cases observed after thirty years, in some of which syphilitic children were born during the observation period.


THEORETICAL POSSIBILITIES IN PATHOGENESIS OF CONGENITAL SYphilis

In seeking an explanation of this difficulty, it may be well to discuss briefly a number of theoretical possibilities in the pathogenesis of congenital syphilis.

1. The spirochetes may be introduced and commence to multiply in the germinal stage of development (roughly, up to the formation of the first rudiments of the embryo). In such a case there would be formed metabolic products from the life and multiplication of the organisms which would have some effect on the life of the embryo, and we must be guided by the results of experimental work in estimating what the nature of this effect would be. It is the consensus of opinion among embryologists whom I have consulted that any infection occurring in this stage would produce death of the embryo with subsequent abortion, or monstrosities. Trinchesse 29 points to experiments of a number of authors (Samasa, Spemann, Driesch, Roux and Kopsch) who succeeded in demonstrating that even in the lower vertebrates destruction of even a single blastomere was sufficient to inhibit the development of the embryo, or to result in anomalous development. Stockard 30 by treating the fertilized eggs of the common minnow (Fundulus) with solutions of magnesium chlorid produced as high as 50 per cent. of cyclopean monsters of various degrees of abnormality. Stockard 31 says that any interference before the stage of gastrulation, which retards for a time the rate of development, results in the production of twins or other anomalies. Similar treatment of the spermatozoa with chemicals results in abnormal development of eggs subsequently fertilized.

There can be no doubt that if a spermatozoön is actually affected by a direct chemical treatment, the egg which it fertilized will develop more or less abnormally. The radium and roentgen-ray experiments of Bardeen and Hertwig, as well as fertilization by foreign spermatozoa, give conclusive evidence on this point (Stockard and Papanicolaou 32).

In the early part of this stage the ovum is uncovered by decidua, and this is the only period in which a spirochete from the father could reach the ovum without traversing maternal tissue. We can readily admit the possibility of such a mode of infection, but we must believe

29. Trinchesse, quoted from Weber.
that the result would be as above stated and not the production of what we mean by congenital syphilis. Indeed, early abortion, monstrosities and “dystrophies” have been traditionally ascribed to syphilitic parentage, both paternal and maternal, but these things are not “syphilis”—they are not even specific results as they are as readily produced by other causes.

As an illustration of the continuously accumulating clinical evidence against such early or germinal infection the following quotation from Williams is worthy of note:

Syphilis is usually mentioned as one of the most frequent factors concerned in the production of abortion. In my experience it plays but little part during the first half of pregnancy, but, on the other hand, it constitutes the most important single factor in the etiology of premature labor. Additional probability is lent to this view by the fact that all observers agree that spirochetes are not present in the tissues of fetuses expelled by syphilitic mothers during the first half of pregnancy, but are found with increasing frequency in each successive month of the second half.

2. The spirochetes are introduced and begin to multiply in the embryonic stage, i. e., roughly the period before the completion of the development of the various organs. In this case the infective organism would have to pass through maternal tissue in order to reach the ovum, and if the mother escapes infection, we must assume a pure accident or a natural immunity on her part. But here, as in the germinal stage, established facts lead us to believe that the result of infection would not be congenital syphilis, but anomalies or malformations of the organs. This is well illustrated by the results of experimental injuries to the developing heart. Loeb has demonstrated experimentally the effect of injury to the heart on development, and Knower, who worked with frog tadpoles, has confirmed Loeb's observations proving that mechanical or chemical injuries to the heart of embryos cause malformations. In answer to those who say that congenital heart lesions are cases of purely passive failure of development, it can be said that such a conception is unscientific and at least many of the cases bear the distinguishing marks of fetal endocarditis. From such observations we are justified in concluding that an infection of the fetus before its organs are formed would necessarily produce some disturbances or anomaly of the organs affected. There is no evidence of such results in cases of congenital syphilis. The morphologic picture is that of fully developed organs reacting to injury in the same manner as in adult disease. In Figure 14 we have a picture of a lung from a normal fetus of 4 months' development. As yet the air cells are not developed. The lung parenchyma consists of bronchial tubes with three or four tubular branches. If we imagine spirochetal infection in such a lung with the amount of anatomic change shown, for instance, in the lung of the case of congenital syphilis—shown in Figure 5—it is difficult to imagine how the development of the air cells could proceed to the perfection shown in the latter case. So it is in the case of all the organs affected, and I think this is strong morphologic proof that infection of the embryo in the present case at least took place after the organs were fully developed, and this would seem to hold good for the great majority of cases.

3. The spirochetes are introduced and multiply in the fetal stage, i. e., after the formation of the organs. This is the stage in which, in view of the facts stated above, we must believe that the spirochetes at least begin to multiply and give rise to inflammatory reaction on the


part of the fetal tissues. In the latter part of the period after the
decidua reflexa has been absorbed (about the sixth month) we can
conceive of the spirochetes as coming directly from the father, pene-
trating the amnion, the amniotic fluid, and thence going to the
fetus by way of the gastro-intestinal tract. By analogy some basis
of fact is given to such an hypothesis by the recent researches of
Winter, Menge and Walthard, in which they find the fetal mem-
branes a frequent nidus for the growth of ordinary bacteria which
pass thence through the amniotic fluid into the mouth of the fetus. At
this late period, then, we can conceive of paternal transmission resulting
in genuine congenital syphilis without necessarily causing infection of
the mother. Facts of any great weight, however, in support of this
view are not available.

4. The spirochetes are introduced but do not multiply in the germ-
inal stage. They lie latent throughout the germinal and embryonic
phases of development, but do not multiply and give rise to tissue
reaction until the fetal stage. This is the old theory of "latency" referred to by Ballantyne in his excellent work on Antenatal Path-
ology, as a necessary implication "if we are to accept the hypothesis of germ and sperm infection with syphilis." This period of latency
is regarded by some as equivalent to an "incubation" period. It must
be remembered, however, that the true meaning of "incubation" involves the multiplication of the organisms. Another conception is
that of an inactive "larval" stage, or as recently resurrected by Wile, a
"granular" stage. The classic fact used in support of this theory is
that it has been demonstrated experimentally that tubercle bacilli introduced into the hen's egg may apparently remain latent in the
embryo chick, setting up tuberculosis only after the chick has left the
egg. This solitary and perhaps somewhat doubtful experimental suc-
cess has been a long time awaiting fellow facts to support it, and it
seems a slender thread of evidence beside the counter experimental
evidence quoted above.

5. We may conceive, as Boulengier did, that the mother really
contracts syphilis, but that all the strength of the virus is exerted on the
very active organs of the fetus (placenta included), which are as it
were a most favorable culture medium for it. According to some such
view, spirochetes could multiply in the maternal tissues during the

36. Winter, Menge and Walthard, quoted from DeLee, Joseph B.: The
1918, p. 842.

37. Ballantyne, J. W.: Antenatal Pathology and Hygiene: The Fetus, Edin-
burgh, 1902, p. 245.

germinal and embryonic stages and reach the fetus in the fetal stage where at least the great bulk of the tissue reaction would take place. There is a reaction on the part of the maternal tissues, but it is very mild and escapes all tests for clinical detection. That such mild degrees of syphilis—so-called “latent”—do exist is proved by many clearly established facts. It is now well known that the Wassermann test fails in a large number of cases of latent syphilis. Warthin has found the incidence of latent syphilis in about one-third of adult necropsies, and many of these cases gave a history of negative Wassermann reactions and negative clinical findings. In a certain number of the cases, spirochetes were demonstrated in such organs as the heart, aorta and testes, without producing any apparent reaction. As Warthin expresses it, only the necropsy reveals that these people are “spirochete carriers,” and have a latent infection of very low virulence. Furthermore, Symmers, Darlington and Bittman, not infrequently at necropsy have found positive evidence of syphilis in the vascular system, liver and spleen in cases in which there were negative Wassermann reactions and negative clinical histories. And recently Fraser has encountered evidence of syphilis of the coronary artery at necropsy in cases in which the Wassermann reaction had been persistently negative and in which all clinical evidence of syphilis had escaped detection.

In the light of these revelations, and especially when they are considered with the biologic and morphologic evidence set forth in the preceding pages, it must be evident that there is little justification for the hypothesis that the syphilitic children of these mothers received their infection by germinal transmission from the father.

The occasional occurrence of apparently healthy mothers giving birth to infected children by syphilitic fathers, and subsequently giving birth to healthy children by fathers free from syphilis, has long been used as an argument in support of the theory of infection by paternal germinal transmission, but this argument is counteracted by the fact that a known syphilitic mother, after giving birth to a syphilitic child, may subsequently bear healthy children. There is another group still more rare in which syphilitic children are born of parents neither of whom have ever shown either clinical or serologic evidence of syphilis. It is possible that here we may be dealing with congenital infection totally unrecognized by the patient. Many cases of congenital syphilis, especially in women, run an unrecognized latent course sometimes throughout a lifetime.

40. Fraser, Alexander: Personal communication.
SUMMARY

1. The case here reported is one more to be added to those of apparently nonsyphilitic and immune mothers bearing children that have been proved syphilitic.

2. From a review of antenatal pathology and embryology and the morphologic evidence in this case, as indeed in all cases of congenital syphilis, it would appear that infection takes place only after the fetal organs have been formed — a fact which excludes the theory of germininal transmission unless we assume a practically unsupported theory of "larval inactivity" of the infecting organism.

3. From the facts reviewed the most plausible explanation of the 5 per cent. residue of nonsyphilitic and immune mothers of syphilitic children is that these mothers have a mild, low grade form of syphilis.

68 West Fifty-Fifth Street.
IX.—MYIASIS DERMATOSA

W. H. MOOK, M.D.
ST. LOUIS

Myiasis dermatosa is an affection of the skin caused by the development of larvae deposited, probably by mosquitoes, in the skin of the animal and human body. The disease is of sufficient rarity in our community to warrant the record of our case.

REPORT OF CASE

History.—B. W., aged 24, applied for treatment, Aug. 13, 1914. He stated that he came for the removal of larvae from his skin, probably the result of fly bites acquired during a visit in Yucatan, from whence he had just returned. He was in splendid health, except for the skin affection.

The two lesions he presented appeared about six weeks before as two small red nodules, slightly pruritic but not painful. One was situated in the median line of the back over the last lumbar vertebra and the other, 3 inches to the right and 2 inches higher, in the right lumbar region. About a week previously each lesion had developed a necrotic center from which there was exuding a thin mucopurulent discharge.

At a glance each lesion resembled an ordinary furuncle with a small central necrosis. The lesions were red, inflamed, and about the size of a walnut. Close inspection revealed a moving organism which constantly plugged the necrotic opening in each lesion. The openings were about 0.16 inch in diameter. Inserting a probe gently caused the organisms to recede suddenly, apparently leaving a hollow round cavity, but, as soon as the probe was withdrawn, they immediately reappeared at the opening. The only discomfort the patient suffered was pruritus, slight pain on pressure, and great mental discomfort from the knowledge of their presence.

Treatment.—An incision was made under local anesthesia and each of the lesions yielded a large larva. Unfortunately they were both slightly ruptured during removal. The lesions were entirely healed within a week and he had no further trouble. An easier method of destruction would have been the application of pure carbolic acid in the necrotic opening.

Blood Count.—A white blood count was made on the day of the first examination and again fifteen days after removal of the larvae. The total count

* Studies, reports and observations from the dermatological departments of the Barnard Free Skin and Cancer Hospital and the School of Medicine, Washington University, St. Louis, Mo., U. S. A., service of Drs. M. F. Engman and W. H. Mook.
was not changed, being about 10,500 at both times, but the differential count is submitted as a matter of interest:

**Differential White Blood Cell Count**

<table>
<thead>
<tr>
<th></th>
<th>8/13/19 Before Removal, Per Cent.</th>
<th>8/27/19 After Removal, Per Cent.</th>
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<tr>
<td>Polymorphonuclears</td>
<td>69</td>
<td>75</td>
</tr>
<tr>
<td>Transitionals</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Large mononuclears</td>
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<td>3.5</td>
</tr>
<tr>
<td>Lymphocytes</td>
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<td>17</td>
</tr>
<tr>
<td>Eosinophils</td>
<td>5.5</td>
<td>2.5</td>
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<tr>
<td>Basophils</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
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The point of interest in the blood picture is the reduction of eosinophils from 5.5 per cent. to 2.5 per cent, fifteen days after the removal of the larvae.

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Fig. 1.—Larvae, Dermatobia hominis, removed from myiasis tumors—about actual size.

**Etiology of the Disease**

The patient dictated this statement regarding the affection and the country in which he acquired it:

This worm is colloquially called the beef-worm and appears in the western part of the peninsula of Yucatan—Teratorio de Quintana Roo—Mexico, in British Honduras, and further south. I judge, through all the mahogany country. It seems to appear in, or on, people engaged in mahogany camps and correlated works, and in the cattle used in the work. People who live in the larger towns and who do not visit the works in the bush, are seldom, if ever, attacked.

The popular belief as to the cause is that they are larvae from the eggs deposited by one of the many flies that infest the cattle camps; it is also claimed that men who wear woolen jerseys are most susceptible. Both of these claims are disputed and the latter really seems to be untenable, but probably gained credence through the fact that so many of the men wore jerseys in the bush all the time. The former theory seems to fail under the fact that
many people develop beef-worm in places where it would be almost impossible for flies to bite, that is, under the belt, etc., as each man gets under his net as soon as his clothes are removed. In my own case, I was in a mahogany camp but three or four hours and removed no part of my clothing.

To my knowledge, one has never been allowed to develop beyond the larval stage but the general belief is that they will turn into flies if permitted to develop. The community knowledge is that there seems to be no limit as to the number of the larvae that can appear on a man and they may appear on all parts of his body. On some persons they seem to have only a slight effect, as in my own case; about the only evidence they gave of their presence, aside

from the marks on the skin, was occasional itching. On other people I have seen them have a very different effect. The places swell up and may become extremely painful. Usually the natives pay very little attention to them and, outside of the few minutes of actual pain while taking them out, they do no harm.

The usual method of removal is by placing a tobacco leaf or a piece of adhesive plaster over the hole at night thus killing the larva and then, by pressure, taking it out in the morning.

Both larvae were sent to Dr. Frederick Knab, U. S. Department of Agriculture, Bureau of Entomology, U. S. Natural Museum. He replied:

Fig. 2.—Furuncle-like lesions as seen the day after the removal of the larvae.
I have shown the larva to Dr. C. H. T. Townsend, our specialist in muscoidean flies, and he tells me that it is the third (last) stage larva of Dermatobia hominis (Linnaeus Jun., 1781). This species is frequently mentioned in the literature under the names Dermatobia cyaniventer (Macquart, 1843) and Dermatobia noxialis (Goudot, 1845): all three names refer to the same insect, the oldest one being the proper one to use according to the rule of priority.

This fly, in the larva state, is a natural parasite of mammals and has been reported from a considerable number of different hosts. In some of the cattle-rearing sections of the American tropics this parasite by its frequent infestation of cattle causes considerable economic loss, the hides being greatly depreciated in value by the numerous larval perforations. Infestation of man is a common occurrence in the tropics, and a considerable number of larvae, each in its own tumor, may occur in one individual. In the natural course of events, larvae infesting man are extracted and destroyed. However, a few years ago, one of our men, having become infested in Panama, allowed a larva to remain in his arm until mature and he succeeded in rearing a fly from it (see August Busck: "On the Rearing of a Dermatobia hominis Linnaeus," Proc. Entom. Soc. Wash. 14: 9, 1912). This specimen agrees in every respect with others reared from cattle, so the idea, at one time prevalent, that there is a species peculiar to man cannot be entertained.

The larvae always occur in cysts just beneath the skin, communication with the outer air being maintained through a small perforation; through this opening the larva protrudes its attenuated posterior end on which are located the spiracles or breathing organs. Infestation may occur on almost any part of the body surface, and is not induced by a previous lesion but occurs in perfectly healthy individuals with unabraded skin. The mode of infestation has, until quite recently, been quite unknown, but it now appears that it occurs through the mediation of a mosquito. The eggs are attached to the body of the mosquito and hatch while the mosquito is sucking the blood of the future host. I forward a recent paper of mine that reviews this phase of the subject.

Dermatobia should not be confused with the "screw-worm fly" (Cochliomyia macellaria Fab.) and others of similar habits. These latter are attracted to open sores, bloody or ill-smelling discharges of nose, mouth, etc., and their larvae are to be considered scavengers rather than parasites. In fact, they oviposit as readily in putrid substances and on cadavers as in the sores of living animals.

Dr. Knab's statement that the mode of infestation occurs through the mediation of the mosquito is new and interesting. He states that "the eggs are attached to the body of the mosquito and hatch while the mosquito is sucking the blood of the future host." In an admirable paper on "Egg-Disposal in Dermatobia Hominis," ¹ he relates the experiments proving the assertion. Dr. Townsend, discussing his paper, suggested "that the female Dermatobia was probably led, through an olfactory tropism, to oviposit upon the body of the carrier; that the eggs were incubated in the uterus and contained the fully

formed maggot at the time of deposition; that the maggot was led, through a positive thermotropism, to escape from the chorion at the time that the carrier imbides a meal of warm blood; and that the maggot is unable to penetrate thick skin itself, but must enter the puncture made by the carrier, being perhaps guided thereto by the odor of the serous exudation following the withdrawal of the carrier’s proboscis.”

The patient’s statement that the worm is colloquially called “beef-warm” coincides with Dr. Knab’s opinion that the larvae we sent to him for examination agrees in every respect with others reared from cattle, and therefore the species is not peculiar to man. Strauch\(^2\) reports a similar case with literature and discussion of its occurrence in animals.

PURPURA ANNULARIS TELANGIECTODES
(MAJOCCHI'S DISEASE)*

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In 1887, Majocchi for the first time observed, and in 1896 for the first time published, a report of a hitherto undescribed dermatosis, "purpura annularis telangiectodes," and enlarged on it, in 1898, in the Archiv für Dermatologie und Syphilis, as a contribution to the Festschrift for Pick. In a memoir to the Royal Academy of Sciences of Bologna, in 1904, he collected reports of his cases, seven in all, and published them in book form in honor of Pick's anniversary. In 1912, at the International Congress of Dermatology and Syphilis at Rome, he reported a further series of six cases, so that the first observer of this unrecorded skin malady had a collection of thirteen cases to report within a period of twenty-five years.

This rather small number evidences the comparative rarity of the disease. It was fully eight years before another observer, Brandweiner, published an exhaustive paper based on a case presented two years previously at a society meeting, including two new cases. The attention of dermatologists was now awakened and reports soon followed by Arndt, Herxheimer and Kohler, Balzer and Galoup, Vignol-Lutatti and other observers, up to 1914. In 1912, Brandweiner and Lindenheim, in critical papers, contributed largely to the study of this interesting skin affection; but by far the most valuable contribution to this subject was rendered by George M. MacKee 2 of New York, who in 1914 and 1915 made a profound study of this disease entity, of which thirty-eight recorded cases, including his own, were known, and published it in a monograph which, as to completeness of illuminating features, critical review of all hitherto observed cases, and complete bibliography, is the most classical exposition of this topic and a fountain-head for future investigators.

* Read before the forty-second annual meeting of the American Dermatological Association, held at Atlantic City, N. J., June 16-18, 1919.
2. MacKee, George M.: Purpura Annularis Telangiectodes, Monograph in Three Parts. J. Cutan. Dis. 33:129, 186 and 280 (March, April, May) 1915. For a complete bibliography the reader is directed to this article.
In the present paper I shall present two cases, one of about two years' the other of about one and one-half years' standing. They possess, both clinically and histologically, the main classical features set down by Majocchi. They deviate, as will be noted later on, in minor details, or show them in a less conspicuous manner. I shall endeavor to plead for a broader view of the dermatosis, by no means in a destructive but rather in a constructive manner. In accepting the diagnosis, one should consider that though there is a lack of well developed annular arrangement of the lesions, or well developed atrophy, there is the achromia and alopecia of the affected parts as well as other clinical and histologic features to demonstrate amply their identity with the dermatosis in question.

We cannot in reason expect a perfect conformity of symptoms to exist in any disease-type, which would in every instance tally with the description given by the first observer. A syndrome is not immutable; it may change in the direction of a plus or minus, part of it may be wanting entirely or may be slightly manifested, or one or the other of its component parts may outshine the others and stand out prominently. There are, however, in all such cases of this dermatosis, enough of the classical features to assure them the right to be included under the category of purpura annularis teleangiectodes.

REPORT OF CASES

CASE 1.—History.—A man, aged 53, a Russian, residing in the United States four and one half years, and married thirty years, father of five children, all of them well, presented a negative family history, and had always been well up to the beginning of the present affection, which had lasted about two years. On the anterior portion of the lower half of the left leg, the patient had noticed a patch the size of a silver quarter; it was bluish, dry, not raised, and was unaccompanied by any symptoms. There were no rheumatoid pains and no enlarged veins present at that time. (The patient was very definite about the last statement.) Within a month, a similar patch, at about the same location, appeared on the right leg. He went to a dispensary and was treated with ointments, but in spite of treatment the area spread in size and new lesions appeared during this time. At the end of about six month, enlarged veins began to appear on both legs; first on the right, later on the left. The general condition of the patient at the onset of the present condition was absolutely negative. At no time had the lesions ever entirely disappeared. The patient stated that there was a quarter-sized, bluish patch on the left leg for about three months. After treatment for about five or six months, the patch became sensitive and itchy. Minute reddish spots varying in size from a pin-point to a pin-head began to appear about the original lesion, extending to the middle of the leg. These spots slowly turned brown, and for the past five months had been gradually turning yellowish. Those on the middle of the leg were entirely gone, only a dark brown discoloration marking the site of the previous lesions. For the past three months no new lesions had appeared; at no time
was there any inflammation, infiltration or hyperemia present, nor were there any ulcers present at any time.

Examination.—The patient, a man of small stature, was moderately well developed, of good musculature and a moderate amount of fat, and with a healthy color of the skin and mucous membranes. There was no adenopathy; the superficial veins were moderately well developed throughout. Extensive follicular keratoses were present all over the body; on the legs these were scant except on the upper part where the keratoses intermingled, though distinctly separated from the lesion to be described. The chest, abdominal organs and urine showed nothing pathologic. The Wassermann and tuberculin tests were refused. The patient denied any infection and did not remember having had any of the diseases of childhood. He had not been sick and did not complain of any illness.

On the lower third of the anterior surface of the left leg there was an irregularly circular patch, about 3 inches in diameter, mottled in appearance and predominatingly dark brown, containing an aggregation of discretely scattered or grouped dark red to dark brown spots, varying in size from a pin-point to a pin-head, which did not disappear on glass pressure. Some of them, on closer observation, showed a minute network of dilated capillaries. In putting the skin on the stretch there was a noticeable tendency for some of these spots to be arranged in circles and half-circles, and some coalesced to form irregular groups. In the centers of these circles and half-circles the skin was smooth and easily wrinkled, and when a fold was raised it was felt to be thinner than its surroundings. Some of these minute lesions were palpably raised above the surface of the surrounding skin. In the center of this area was a scar marking the site of a biopsy. In this scar area were a number of slightly raised, pin-head to pin-point sized, reddish elevations, the color of which did not disappear on glass pressure, almost resembling the apple-jelly nodules of lupus, though smaller, less succulent and somewhat redder in tone.

The margin of the patch described above was not sharply circumscribed but shaded off into the surrounding skin, extending down to and over the inner malleolus, less so over the external malleolus. Here we found minute reddish spots on normal, not inflamed nor discolored skin; these spots did not disappear on pressure.

Between the Achilles tendon and the internal malleolus, the skin was discolored in patches, yellowish, with a light brown tone, containing numerous pin-point to pin-head sized spots which by coalescence showed a tendency in places to slight configuration. Directly under the malleolus was a distinct annular lesion, composed of similar elements; on stretching the skin in this region, one could notice with a lens, an extremely fine network of blood vessels.

Above this primary area, occupying the middle and lateral surfaces of the leg, there were innumerable reddish dots, extending to the patella and over it, and downward over both malleoli. Posteriorly, from the insertion of the Achilles tendon, extending over the calf and well up to the popliteal space and invading the whole circumference of the whole lower half of the thigh, there were also a number of patches composed of innumerable brown red spots; some of them involuting with a change of color to yellowish brown, and with a tendency to circle and half-circle formation. These spots, in the area of yellowish discoloration, were not palpable, while the multitude of discrete puncta on the anterior surface were palpable as well as visible, and distinctly separated from the follicular keratosis mentioned before (Fig. 1).
Fig. 1.—Lesions in Case 1.
On the inner surface of the leg and lower half of the upper part of the thigh, these discrete puncta were similarly found in groups, showing a tendency to incomplete circular arrangement. There were no lesions on the trunk or upper extremities.

The lower third of the right leg, starting above the malleoli and upward toward the midcalf, posteriorly, showed a brownish-yellow discoloration, especially on the inner surface. Within the area just outlined were innumerable puncta, reddish yellow on the external surface, while on the inner surface they were reddish blue. The color disappeared on pressure. These puncta were only visible, not palpable, while on the upper portion of the leg, where there were innumerable discrete and slightly annular lesions, situated on more or less normal skin, they were palpable as well as visible. On both sides of the Achilles tendon, near its insertion, were a few of these scattered puncta. Scattered throughout the dark-brown, discolored areas of the middle of the legs, there were a few penny-sized, whitish, circular patches, of which I shall speak later on (Fig. 2).

**Case 2.**—**History.**—A woman, aged 44, Russian, married, with no history of any special previous illnesses, had had the eruption about one and one-half years. The affection began on both legs: on the lower third of the anterior surfaces she noticed a group of reddish spots, varying in size from a pin-point to a pin-head, situated on normal skin. In the course of a few months the lesions began to fade and the surrounding skin turned yellow, with new similar lesions appearing above and extending upwards to the middle of the leg. The patient did not complain at the time of onset, but now complained of itching. The general condition of the patient was good and the internal organs were negative. In this case, also, a Wassermann and tuberculin tests were refused after the biopsy was made.

**Examination.**—On the anterior surfaces of both legs, involving the middle and lower thirds, the skin showed a yellowish discoloration with numerous minute, in places grouped, mostly discrete, reddish spots. The site of the original lesions showed only a yellowish discoloration. There was no brownish discoloration or any evidence of hemorrhage whatsoever. The reddish spots did not disappear on pressure. The patient had noticed, for the last few months, a tendency to develop superficial veins on the upper half of the legs, but these caused no discomfort. It is worthy of recording the fact that the varicosities began some months after the onset of the lesions under consideration.

**Microscopic Report**

In Case 1, three biopsies were made: (1) Group of minute, reddish, pin-point spots in apparently normal skin, representing the most recent lesions. (2) Group of slightly raised, reddish spots surrounded by moderately discolored skin (yellowish brown), representing fully developed lesions. (3) Site of previous grouped lesions, only yellowish discoloration present; representing involuted lesions, part of area first involved when the disease began.

In Case 2, one biopsy was made: Group of reddish spots on yellowish skin, representing developing lesions, though present for some months.

**Low Power.**—In case 1 the section of group 1 shows dilatation of the lymphatics and edema of the entire corium, more marked in the upper part. There are more or less sharply circumscribed groups of vessels (small and somewhat dilated) in the subpapillary zone, surrounded by a moderate amount of cell infiltration. The surrounding connective tissue is reticulated as well as edematous, especially about these groups of vessels. The epidermis appears thinned, the rete pegs and papillae are practically wanting.
Fig. 2—Right leg, Case 1.
In the section of Group 2 the lower corium the deep vessels just above the fatty tissue are dilated, the walls are somewhat thickened, and there is a moderate amount of perivascular edema. The perivascular lymphatic spaces are somewhat dilated. In the midcutis there is a group of closely aggregated, variously sized, somewhat dilated vessels, showing slight edema and with no cell infiltration about them. (Here there is already evidence of telangiectasis in the communicating branches, between the lower and upper systems of cutaneous vessels.) In the upper cutis or subpapillary zone, there are groups of large numbers of vessels, some dilated; in some the lumen is almost occluded. The walls of a great many are swollen, in a few, thinned; all are surrounded by a well marked cell infiltration, containing, in places, a large amount of pigment granules, the entire pathologic process lying within moderately edematous, reticulated connective tissue. In one place, surrounding a group of vessels, is an irregular space, with ragged walls; within this space are free blood cells and some pigment.

In the deep corium the vessels are markedly thickened. In the midcutis very few vessels are present, and there is no tendency to group formation. In some areas the vessels can hardly be differentiated, on account of the number of infiltration cells. Those vessels which can be seen, have apparently thickened walls. The upper lymphatics are all dilated; pigment

Fig. 3.—Location of pathologic process in upper corium, just beneath the epidermis. There is edema of the connective tissue and dilatation of some of the deeper vessels.
granules are few in number; the epidermis as a whole is thinned, with absence of rete pegs and papillae. The connective tissue, as a whole, in places appears somewhat condensed, so that the fat appears up half way to the epidermis. The connective fibers in places are somewhat reticulated.

In the section of Group 3 the deep vessels are moderately dilated, their walls vary in thickness, but all are thickened. The connecting branches in the midcutis are dilated, the walls somewhat thickened and surrounded by dilated lymphatic spaces; no cell infiltration is present. In the upper cutis, across the entire section are groups of vessels, from two to five in each group; some are dilated, the walls apparently thickened; the connective tissue about them is reticulated;

Fig. 4.—Groups of vessels in upper corium surrounded by moderate amount of cell infiltration; dilatation of lymphatics and deeper vessels; edema of connective tissue and of epidermis.

there is very little cell infiltration; the lymphatic spaces are all dilated. The connective tissue as a whole is edematous and appears fragmented. The epidermis as a whole is thinned; the rete pegs and papillae are wanting.

High Power.—In Case 1, Group 1, the corneous layer is present throughout, is slightly thickened and has a tendency to lamination, especially in the depressions marking the probable sites of follicles. The keratohyaline layer is present throughout, and is composed of two layers of cells; the granules are very fine and difficult to distinguish. In the prickle cell layer in a few places there is evidence of moderate interstitial and parenchymatous edema; a few wandering
cells are present. The basal cell layer as a whole is disorganized, especially over the groups of vessels. The connective tissue in its subepidermic portion is finely reticulated, with a moderate degree of granular degeneration (very fine granules); the elastic fibers are fragmented, and for the greater part wanting. This granulated and reticulated appearance of the connective tissue is present about the groups of vessels, but in these areas there is more edema and dilatation of the lymphatics and spaces. The deeper connective tissue is edematous, the finer structure no longer distinguishable; the fibers appear more or less homogeneous and glassy. The lymphatics are dilated. The connective tissue cells are moderate in number in the upper part, and comparatively few in the lower part.

Vascular Apparatus: One of the deeper vessels, of moderate size, shows its lumen narrowed down to a small crescent, in some of the sections; in others, the lumen is no longer present. It is occupied by a globular mass composed of connective tissue cells, with little interstitial substance, the cells apparently derived from the subendothelial connective tissue. The adventitia is moderately thickened, due to edema—endarteritis.

Fig. 5.—Higher power of preceding illustration showing groups of vessels with their indistinct homogeneous wall, edema of the surrounding tissue

Upper Plexus, in Subpapillary Zone: Lying within an edematous, reticulated connective tissue are groups of vessels of various sizes and varying numbers in each group, some close together, with small bands of reticulated, connective tissue between them. The lumen of some is markedly narrowed, owing to the edematous condition of the walls. The individual structural elements cannot be differentiated; they appear somewhat homogeneous and do not take the stain properly (hyaline degeneration?). In some of the vessels the endothelial cells are swollen. In none of the vessels is there any proliferation of the intima, no thickening of the adventitia, and only a swollen condition of the entire wall, as described. Within the edematous, reticulated connective tissue in which these vessels lie is a moderate number of cellular elements, mainly fixed connective tissue cells with a few round cells. The granular appearance of the connective tissue noted before is more marked in this vicinity than elsewhere. Nowhere is there any evidence of pigment or blood cells (hemorrhage), or any rupture of vessel walls.
Summary: The tissue is characterized by groups of vessels of varying size and number, lying within a reticulated, edematous, degenerating, connective tissue, in the meshes of which are a moderate number of cells. The walls of the vessels are swollen, and appear homogeneous; there is no evidence of endarteritis or of hemorrhage. The deeper vessels show distinct endarteritis. The epidermis is thinned, probably because of the edematous condition of the entire connective tissue.

In Group 2 the epidermis is similar to the preceding. The subepidermic portion of the connective tissue is reticulated, fragmented and granulated. From the midcutis and deep cutis it is moderately edematous, with dilatation of the lymphatics. The entire connective tissue appears to be broken, fragmented in varying sizes, and in the upper part and about the upper vessels, very finely granular. The elastic tissue in the upper cutis and about the vessels is fragmented, and in the subepidermic region, practically wanting. In the lower cutis it is broken in large strands. Nowhere in the sections is the elastic tissue normal. The vessels of the deep cutis in the fatty tissue show a fairly well marked panarteritis,
whereas in the tissue described above only endarteritis is present. The vessels just above the fatty tissue show a thickening of the walls, though no endarteritis or panarteritis (edema). The communicating branches of the midcutis are in a finely reticulated connective tissue. The walls of the vessels are swollen and appear somewhat homogeneous, the endothelium swollen. There are only a few infiltration cells present. No hemorrhage or pigment is present in this region. The groups of vessels of the upper corium lie in a reticulated, edematous, degenerating (granular) connective tissue, containing varying numbers of fixed connective tissue and round cells. The walls of the vessels are swollen and homogeneous and take the stain not as well as in the previous tissue. Scattered throughout the entire upper corium are very numerous, larger and smaller groups of pigment granules, most abundant in the region of the groups of vessels. In one area, about a group of ten vessels, is an irregular cavity with ragged walls, composed of broken and fragmented connective tissue. On one side, the wall is made up of a number of somewhat dilated vessels filled with blood cells. The outer wall of one of these vessels appears as though

Fig. 7.—High power of cavity showing its walls, contents and vessels. The walls of the cavity are composed mainly of broken and ragged fragments of connective tissue. On the right side, group of vessels seen in the preceding slide filled with blood; the one projecting into the cavity shows a disintegration of one part of its wall (rupture?). In the cavity are numerous clusters of pigment granules, red, white blood cells and fragments of connective tissue. The connective tissue is for the greater part fragmented and granulated. The lymphatics are dilated. Section of fully developed lesion.
ruptured. In the cavity and along its ragged walls are many groups of pigment granules, also a moderate number of scattered red and white blood cells and masses of degenerating connective tissue.

Summary: The process is further advanced than in the tissue previously described. There is a panarteritis of the deeper vessels; there are telangiectatic communicating branches and further degeneration of the upper telangiectatic vessels, with the presence of pigment and cavity formation, containing pigment and blood elements. The granulation (degeneration) of the connective tissue is somewhat more marked, as is the breaking up of the elastic fibers.

In Group 3 the section shows panarteritis, with degeneration of the vessels in the deep cutis, whereas in the previous tissue only panarteritis was seen. The vessels in the midcutis show the lumina for the greater part almost closed. The other changes are as before noted. Most of the lumina of the upper cutis are narrowed, the connective tissue is more fragmented, and more vessels appear to be filled with blood cells, with vessel walls thinned. The connective tissue as a whole is more disorganized. The coil glands and muscles show evidence of degeneration. No evidence of hemorrhage or pigment is present.

Summary: The process is more advanced, with further degeneration of the parts enumerated in the last tissue.

In Case 2 the findings are similar to those present in No. 1, excepting that the granulation of the connective tissue is somewhat more marked.
COMMENT

In analyzing the features of these cases, especially Case No. 1, to which I shall devote most of my attention, one can observe a coexistence of two of the customary three stages, namely, the telangiectatic and hemorrhagic-pigmentary; the atrophic stage is expressed both clinically and histologically in a slight degree only. Neither the arrangement nor the involution of the lesions conforms fully to the classical description as given by Majocchi, but the main clinical and histologic features agree with his and the findings of all observers. I am able to add some minor features not mentioned by Majocchi, as slight elevation of the lesions above the surrounding skin, and confirm another feature (achromia) not observed by successive authors.

The center of the ring or figurated lesions, and the places where the discrete lesions were involuting, showed a smooth, silky, often glistening surface with an alopecia here and there.

The distribution of the eruption in my case shows the total ring form only sparsely represented. Outlines of fading, ill-defined,
annular lesions, in the form of semicircles, serpentine lines, and also in grouped and linear configurations, are discernible. These spots exhibit all the retrogressive color changes of seeming hemorrhage. The most recent ones are bright red with a just discernible capillary ectasia, while the older ones are dark red and do not pale on diascopic pressure. The older ones show a gradual fading into brownish red or yellowish red. Telangiectatic, punctate, hemorrhagic and pigmen-
tary spots are found throughout, representing two of the three classical stages, as mentioned before.

Fig. 10.—Panarteritis of deep vessel with degeneration of the wall, late lesion.

As to the annular arrangement of the lesions, which, in the original presentation of the disease occupied the third place of Majocchi's seven requirements, while they had been found and more or less noted by all observers, yet their presence is not an indispensable attribute of the eruption, as the title of the dermatosis would imply.

Brandweiner was the first to draw attention to this deviation, as did Ferrari, who speaks of "patches of all forms." Majocchi, in 1912, stated that the lesions were "mostly" annular. Vignolo-Lutati
was unable to observe a conversion of punctate lesions into an annular one. Ossola speaks of the lesions also occurring in linear formation; Lindenheim also mentions irregular arrangements; Noble speaks of solid disks or patches of various size; MacKee's case presented on the left leg mostly discrete and also grouped lesions. In my case there were indications of annular arrangements, some of them coalescing into gyrate configurations, but for the most part, the discrete and grouped lesions prevailed.

Fig. 11.—Dilated lymphatic with contents.

An involvement of the hair follicles or other appendages of the skin could be observed neither clinically nor histologically. That this involvement is not one of the necessary requirements is evidenced by Majocchi's statement in the first point of his characteristics of the disease, that the hair follicles are "usually" involved. (This was noted by only a few observers.)

In this case I wish to emphasize especially the extensive dark brown, yellowish brown, and yellowish green discoloration, and the silky sensation to touch, at the site of the fading old lesions, either figurated or grouped. As described before, a smaller part of the eruption, judging
from the appearance of formerly affected areas, must have developed in ring formation, in the earlier part of their life history. Within and outside of the dark brown discolored areas (occupying the front and lateral regions of the left, and in a lesser degree, the right leg) there are round clearings the size of a copper cent piece, visible within a dark frame of extensive pigmentation, or like rounded, whitish islands, in an area of dark brown discoloration. These round spaces or clearings—the probable sites of former annular lesions—present a striking

whiteness, resembling a rounded vitiligo spot within the confines of its dark pigmentation. They show the characteristic wrinkled, cigaret paper-like appearance, are smooth and silky to the touch, and are devoid of hairs. This achromia, mentioned by Majocchi in Point 7 of his description, has been noted by only a few observers. Lindenheim mentions that "the pigmented areas are not solid, but contain minute clear spaces." In the case under discussion, the clear spaces had, as mentioned before, the size of a cent piece. In Lindenheim's case, these interspaces enlarged until all that was left of the lesions were a few

Fig. 12.—Granular degeneration of the connective tissue below epiderm.
grouped "freckles" (disappearing pigment). In my case the white spaces had not as yet demobilized the surrounding pigment to such an extent.

The yellowish green hue of the skin occupying the site of the once grouped and discrete lesions is still in evidence. This peculiar discoloration is mentioned by almost all observers. It extends over different sized areas of an inch or more in length and width. In some of these areas, traces of involuting spots can yet be discerned. Although they look as if caused by disintegrating pigment, and have

Fig. 13.—High power. Parenchymatous edema of prickle cells and degeneration of connective tissue.

been defined as pigmentation, a careful study of the sectioned tissue shows no trace of blood extravasation or pigmentation. The discoloration is due to a distinct degeneration of the connective and elastic tissue, similar to that seen in pseudoxanthoma elasticum. In searching the available literature I have not found any special histologic reference to this degeneration of the connective and elastic tissue as the cause of the yellowish tone, noted clinically. To my knowledge, this is the first attempt to explain this clinical picture.
A fact worth mentioning is the reappearance of lesions at the site of one of the biopsies. This would amplify the statements of Brandweiner and Ossola. The former succeeded in causing the appearance of red puncta by scratching or scraping the skin. The latter, by applying an elastic band over the arm. Although not typical for the disease in question, this phenomenon shows only an increased vaso-motor excitability of that particular skin.

Provocation of lesions, similar to already existing parent lesions, is frequently observed in other clinical conditions, as in lichen planus.

Fig. 14.—Adnexa, edema of connective tissue about them.

urticaria, etc., in individuals so predisposed. It is this predisposition, and not the trauma itself, that does the provoking. Therefore I do not think that Brandweiner’s contention is tenable, that trauma and the predisposition created by a vaso-motor excitability may cause the affection in question. I am rather inclined to assume that—analogous to the etiology of erythemas like pityriasis rosea,\(^3\) and erythema mul-

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tiforme, etc.—pathogenic bacteria of different kinds, absorbed by the circulation, are causing disturbances in the skin. The sudden outbreak, the petechial character of the eruption, its cyclic course (the three stages), its disinclination to recurrences, all point toward a toxic origin. In the transmission of the circulating toxins, alterations of the vessel walls take place. Naturally, the process will invade the vessels of the deeper strata first and, extending its force, the main lesions will be found there and only later the vessels of the upper portion of the skin, with its surrounding tissue, will be affected. This is

Fig. 15.—Coil glands—vacuolization of some of the lining cells and cloudy swelling of the cells (parenchymatous edema).

exactly what happens in the development of purpura annularis telangiectodes. It seems as if a toxic and angioneurotic process can eventually cause mild inflammatory changes in the skin, as evidenced in the different erythemas, urticarias, and also slightly in the affection under discussion.

The scanty extravasation of blood cells cannot possibly cause the clinical observable hemorrhage. All observers noticed the discrepancy between the clinical and histologic findings in this respect. Some
explain this as an optical delusion due to the fact that the superficial, thrombosed capillaries are not emptied entirely by the diascopic pressure and are therefore taken for the tiny hemorrhage visible. In those rare instances in which a rupture of the vessel-wall had taken place, the clinical evidences of hemorrhage will find their natural explanation.

As to the etiology of the affection: Almost all diatheses have been suspected and ruled out—tuberculosis, syphilis, rheumatism, gout, diabetes, heart affections, hemophylia and lead poisoning—especially the latter were suspected in the cases of Brandweiner and Lindenheim.

Fig. 16.—The elastic tissue and degeneration of the connective tissue (special stain, Weigert elastic stain).

Their patients were printers. But this may have been a coincidence, as the other patients had widely different occupations and environments.

The male sex, according to MacKee’s tabulation, contributed thirty-one cases of the recorded thirty-eight. That twenty-three of the thirty-eight patients were Italians is probably due to the fact that through Majocchi’s publications Italian dermatologists were on the alert for such cases. Since MacKee’s monograph on this affection was published a wave to recognize this disease has been permeating American dermatologists.
Autointoxication as the causative agent has as yet the largest number of adherents. With the finer laboratory technic and more extensive knowledge of metabolism and of focal diseases, it seems that this direction offers a favorable working basis for further investigations.

The treatment will and can be only symptomatic. Rest and an elevated position of the limb in the acute onset, with the use of embrocations of Burrow's solution will prove helpful. To increase the viscosity of the blood; calcium lactate should be exhibited, and later iron and strychnin administered. The use of a porous weave bandage without rubber to exert an even pressure will prove rational.

There has been some controversy in reference to certain stasisdermatoses presenting a few clinical features of the affection in question. Klotz, 4 in 1904, described a case of chronic symmetrical diffuse hyperemia of the extremities, also calling it erythromelie. Here the

main features were redness over the fingers and toes, spreading over the hands and feet, arms and legs; a network of dilated capillaries, the color fading on pressure; the affected parts show all stages of hyperkeratosis, from the formation of an insignificant xeroderma to the formation of horny shields, resembling fish-scales, associated with thickening of the skin; no pigmentation or discoloration is present. There is very little resemblance in this description to the disease in question. Majocchi's disease is characterized by grouped or annular lesions, associated with pigmentation or discoloration and no thickening, but with a tendency to atrophy. Klotz thought that the condition he described was probably a vasomotor neurosis, allied to the local asphyxia or Raynaud's disease. The two cases of Herxheimer and Kohler were regarded by Blaschko and others as a stasis or congestive dermatoses, and a third one was considered as a transition case of purpura annularis telangiectodes. These stasis-dermatoses, which are found on the legs, associated with varicosities, are due to extravasations from the papillary venous capillaries, resulting from a thinning of the epidermis. This affection is also called dermatitis-cruris et varicibis by the Vienna school and the other kindred ones, like Schamberg's progressive pigmentary dermatosis are clinically and histologically different from purpura annularis telangiectodes.

On the other hand, there are some unrecorded cases of what seems to have been Majocchi's disease, by Harris, Engman and Mook, and others.

CONCLUSION

The case in question presents the following deviations from the cases reported by other observers:

1. There is very intensive, dark-brown pigmentation over the middle of the legs, with whitish achromia in the center.

2. There are almost numberless discrete lesions, with the yellowish discoloration in the area of the fading spots, which discoloration is not due to pigment deposit, but to a degeneration of the connective and elastic tissues.

3. The evolution and the involution of the lesions and all their stages are observable simultaneously (coexistence of lesions).

4. A slight raising above the level of the skin is present, independently of the keratotic follicles.

5. The coil glands show evidence of a cloudy swelling and some degeneration, while the follicles are not involved.

6. Lesions appear at the site of a biopsy, which lesions in every respect are similar to the original ones.

7. This fact shows almost to a certainty a vasomotor trophic influence on the peripheral vessels.

I wish to express my thanks to Dr. George M. MacKee for many helpful hints; to Dr. D. Satenstein for the interpretation of the histologic material, and to Dr. Henry Kreuder for the preparation of the photomicrographs.

**ABSTRACT OF DISCUSSION**

Dr. MacKee said that he had had several opportunities of observing the cases reported by Dr. Weiss, and that he could not identify them as examples of purpura annularis telangiectodes. As Dr. Weiss had mentioned, the differential diagnosis between examples of chronic purpura, such as Schamberg's progressive pigmentation, the so-called hemostatic dermatitis of Klotz, the common chronic telangiectasia of the legs due to deep-seated or superficial varicose veins, arteriosclerosis, cardiovascular and renal disturbances, and Majocchi's purpura annularis telangiectodes was often confusing both clinically and histologically. Dr. Weiss held a broader conception of the latter disease than did the speaker. In all diseases there were borderline cases, and until such time that cases like those so ably presented by Dr. Weiss were differently classified, it would seem preferable not to include them in such a definite entity as Majocchi's purpura. The main objections to such inclusion were the absence of clean-cut recurrent attacks, the paucity of annular lesions, the fact that lesions were always present, the presence of varicose veins and other causes of local purpura, and the absence of hyaline degeneration, histologically.

Dr. Zeisler thought these cases must be very rare, because in thirty-five years in dermatology he had not been called on to make such a diagnosis until recently, when in the Chicago Dermatological Society a case was shown which was thought to be that disease. The appearance was very much like a lichen planus moniliformis. His son and others who were more modern in their views of dermatology thought it was a case of Majocchi's disease, but he could not identify a case in thirty-five years' practice.

Dr. Weiss thought that there were borderline cases existing. It must be remembered, however, that other purpuric conditions usually were accompanied by constitutional disturbances, fever and malaise, while in these so-called borderline cases, as well as in these of the true Majocchi type, the concomitant symptoms were negative. Some slight rheumatoid pains were present in some cases; but as Majocchi himself said, they were coincidental. There was a low grade of inflammation with a moderate pigmentation present in these borderline cases, including the stasis dermatosis.

In Majocchi's diseases there was no inflammation, no pain or other constitutional symptoms observable, and the pigmentation was extensive. He emphasized that the hemorrhage in the stasis dermatoses was due to capillary rhexis and diapedesis. He tried to show—as he thought, for the first time—that the pigmentation in Majocchi's disease was not due to blood stasis and its sequelae, but to the degeneration of the elastica.

He felt that he was within the limits of the disease entity by counting his case as one of the Majocchi type, even if some of the symptoms were not sufficiently expressed. The syndrome of the first observer was not immutable: a plus here, or a minus there would invariably be observed. He thought that enough of the clinical and histologic features were present to declare the case in question to be purpura annularis telangiectodes.
The various texts and monographs on syphilis agree in designating gastric syphilis as a rare condition. That gastric symptoms sometimes accompany generalized syphilis was noted occasionally by the earliest eminent syphilographers, and more particularly by the pathologists. A study of the literature up to date, and the ever increasing number of cases of gastric syphilis which are being reported by contemporary writers, make it more than probable that the condition is not as rare as it was first thought. A routine Wassermann reaction, such as is carried out in many hospitals on all entering patients, has revealed a surprisingly large number of cases of visceral syphilis which otherwise would have escaped correct diagnosis. Not a few among these are cases in which the stomach has been involved. The supposed rarity of the condition is without doubt accounted for not only by faulty observation, but also by the close similarity between the symptoms of gastric syphilis and other forms of gastropathy, notably ulcer and carcinoma.

Without doubt more cases of gastric syphilis are unrecognized than have been accounted for and reported. Although syphilis of the stomach in the new-born was noted and accepted as a pathologic and clinical entity in the middle of the nineteenth century, the involvement of the stomach in the acquired cases was not universally accepted by early writers. Clinical evidence has long pointed to involvement of the gastric mucosa in early and late syphilis, the pathologic studies of Chiari,¹ Virchow,² Wagner,³ Birch-Hirschfeld,⁴ Stolper,⁵ and others, establishing a pathologic basis to account for the clinical findings. The early French syphilographers in particular, notably Lancereaux,⁶

Verni,7 and Gouzot,8 call attention to the occasional disturbance of digestion and of symptoms referable to gastro-intestinal disturbance during the stage of actively acquired syphilis, and their observations led them to the belief that such disturbances were due to the syphilis rather than coincident with it. The great advances of the last two decades dependent on biologic and experimental studies in syphilis have led to an enormous increase in the number of cases of visceral syphilis, so that today many conditions regarded a few years ago as rare have in the light of more close study become relatively frequent. Gastric syphilis is therefore today by no means rare, and contemporary literature on the subject is an extensive one. In Germany extensive clinical and pathologic reports have been collected by Hausmann,9 Fraenkel,9 Siegheim,11 Schneider,12 Neugebauer,13 Kleissel,14 and others. In France the subject has been thoroughly reviewed by Leven,15 Mathieu,16 Pater,17 and Hayem.18 In our own country excellent monographs on the subject have been written by Hemmeter and Stokes,19 Einhorn,20 and Smithies,21 together with numerous isolated

observations recorded by others. The entire subject is excellently treated in the French thesis by Pater.

The subject of syphilis of the stomach will be considered under two main heads: (1) those forms occurring in the early or so-called secondary period, and (2) those forms occurring in the later or tertiary period of the disease.

THE EARLY MANIFESTATIONS OF GASTRIC SYPHILIS

During the first few months after infection the stomach may be involved directly or indirectly.

Indirect Involvement.—Symptoms referable to the stomach are not infrequently found in association with involvement of the nervous system. Thus in association with basilar meningitis I have seen projectile vomiting. Nausea and eructation, and occasionally diarrhea have been noted in labyrinthine syphilis. In my wards at the University Hospital, in which fresh patients are kept in bed, we have noted such general symptoms as bad taste, more or less epigastric pain and frequent loss of appetite. Mention of these symptoms has been made in publications by Wile and Stokes in connection with the early involvement of the nervous system. Bulinia is also occasionally encountered, and I have seen one case in which insatiable appetite occurred.

With the early secondary fever, loss of appetite is the rule, and in the more severe malignant precocious cases the loss of appetite is often a prominent symptom. The occasional involvement of the liver in early syphilis is almost invariably associated with reflex gastric involvement. Thus chronic passive congestion and hemorrhage have been noted in such cases.

Incidence.—Symptoms such as are above described I have noted at the University Hospital in fully one third of the cases of syphilis with florid exanthems. Sex seems to be the only predisposing factor, women being more commonly affected than men. The history of previous gastric disorder seems to have little bearing on the incidence of the condition. With the incidence of early basilar meningitis, gastric symptoms are almost the rule. It is seldom, however, that patients bring forward their gastric symptoms as the chief complaint, and it is only by careful questioning that a history is elicited. Usually the other symptoms far overshadow those referable to the stomach.

Diagnosis.—This depends largely on the association with other syphilitic findings. A chemical analysis of the stomach contents in these cases shows practically no definite pathology in the stomach itself. In cases with hemorrhage, this is usually accounted for by enlargement of the liver with associated jaundice. The cases in which
vomiting is projectile suggest involvement of the base of the brain, and the milder general symptoms are entirely like those associated with any other general infection.

_Prognosis._—The prognosis is excellent and depends entirely on the early recognition of the general syphilis and the institution of early and prompt treatment.

_The Direct Involvement._—Definite organic change may occur as early as the first few weeks after the infection. The pathology of such cases is unfortunately little understood owing to the fact that patients seldom succumb during this period of the disease and postmortem examinations of such cases are few. It is highly probable that during the first few weeks and months of syphilitic infection there exists in all the mucosae a condition analogous to the roseola or to the papular efflorescences of the skin, which may lead to superficial erosions of the gastric mucosa. As in the case of the skin, such lesions are likely to be transitory in nature and spontaneously to involute. In a few patients with secondary syphilis who have succumbed and on whom postmortem examinations have been performed, hemorrhagic areas of the gastric mucosa and occasionally superficial erosions have been noted.

_Symptoms._—The symptoms referable to such changes are those of gastric catarrh. Thus one not infrequently finds epigastric pain, vomiting, loss of appetite, foul breath and general symptoms of dyspepsia.

Little mention of this form of gastric syphilis is found in the literature, although in treating late gastric syphilis all writers are agreed and mention the incidence of the earlier form. Cases, however, have been given excellent study by Neugebauer, and Lenzman, and isolated examples are mentioned in this country by Potter, and Einhorn. Neugebauer studied test meals on 200 cases of early syphilitic infection in patients exhibiting florid manifestations. He found a marked deviation from the normal in a large percentage of his cases. Thus a decrease in acidity was found in 62 per cent.; hyperacidity in only 17 per cent. In association with these findings he noted loss of appetite, pain, emaciation, bad taste and vomiting. In substantiation of the view that a roseola of the gastric mucosa without symptoms can occur, Neugebauer found marked deviation from the normal in the stomach contents in many cases in which there were absolutely no symptoms referable to gastric involvement. He concludes, however,

that these changes might be due to difference in vagus tone, or directly by syphilitic disease of the stomach, and in some cases without doubt by both. At the University Hospital we have not undertaken test meals on our early cases, but we have particularly noted the clinical symptoms of gastric catarrh in a fair proportion of our cases.

_Incidence._—We have found this condition more pronounced in women than in men and in no way associated with previous dyspepsias.

_Diagnosis._—These cases must be differentiated sharply from those in which the involvement is indirect, but with clinically similar manifestations. It is therefore necessary to rule out central nervous disease and involvement of the liver, also to rule out definitely a coincident catarrhal gastritis. The occurrence of gastric symptoms in a healthy person simultaneously with the eruptive manifestations of the disease points strongly to syphilis as the cause, particularly if such symptoms disappear promptly with the institution of treatment, and more particularly if they resist the usual treatment of gastric catarrh. In general, although closely simulating simple catarrhal gastritis, syphilitic gastric catarrh is apt to be considerably milder. The most important diagnostic point is its abrupt onset in association with the eruptive stage of the disease.

_Prognosis._—The prognosis is excellent and depends on the prompt institution of treatment directed to the general condition.

**THE LATE MANIFESTATIONS OF GASTRIC SYPHILIS**

Our knowledge of the later manifestations of gastric syphilis is considerably in advance of our knowledge of the early manifestations, because they are of a more serious nature and hence show striking symptoms as a chief cause for complaint rather than vague symptoms coincident with other manifestations of syphilis. In addition, they are not infrequently fatal and hence their pathology is more readily available. The lesions occurring late are distinctly polymorphous in character and their symptoms are directly referable to the type of lesion present. Thus they may refer directly to symptoms of ulceration, perforation, tumor, hypertrophy and atrophy. I should classify late syphilis of the stomach broadly into gastric syphilis and perigastric syphilis. The former includes: (1) syphilitic catarrh; (2) syphilitic round ulcer; (3) submucous gummas, ulcerative or nonulcerative; (4) diffuse syphilitic infiltration of the gastric mucosa giving rise to distortion; (5) pyloric syphilis, including ulcer and cicatrix, gumma and diffuse syphilis. Perigastric syphilis includes involvement of the omentum, mesentery and retroperitoneum. This will be considered elsewhere.
Incidence.—With regard to the incidence of late manifestations: They are more commonly found in men than in women. Meyers, 24 who has collected from the literature forty-nine cases of acquired syphilis of the stomach, finds that thirty-one occurred in men. The earliest case occurred at 18 and the oldest at 60. The largest number of cases occurred between 30 and 50. In three cases seen by myself in the last two years, two have occurred in men.

SYPHILITIC CATARRH

This condition is very rare. It does not begin as persistent catarrh, but with dyspeptic symptoms and definite chemical changes in the stomach, usually occurring years after infection and usually unrecognized. There may be a great deal of doubt as to the nature of these cases, as most of those in the literature are cases in which the diagnosis rests on the therapeutic tests, that is, on the presence in a syphilitic patient of gastritis associated with vomiting, gastralgia, occasional hyperacidity, more often, however, anacidity, resisting all therapeutic measures directed to dietary and usual measures, and clearing up with specific medication. Einhorn 29 records cases of this type. It seems not unlikely that the earlier stages of gastric gumma might easily give rise to conditions simulating catarrhal gastritis. Indeed, in studying the cases of gummatous gastritis and of syphilitic ulcer there is frequently a history of long-standing dyspepsia in which the findings are those of a catarrhal gastritis. For the most part, therefore, and in the absence of definite pathologic light on these cases, they must be regarded as premonitory stages of the later and more severe forms.

SYPHILITIC ROUND ULCER

Occurrence.—This condition and gummatous tumor form the largest percentage of recorded clinical and pathologic cases of gastric syphilis. According to Ewald, 25 10 per cent. of his cases of peptic ulcer were syphilitic. A similarly high proportion is reported by Fenwick. 26 In 308 cases of chronic ulcer, Fenwick reports an earlier syphilis as existing in 10 per cent. In 132 fatal cases gummas or other evidences were found in 6 per cent. He concludes, therefore, that 5 per cent. of all ulcers are syphilitic. Other writers, however, give the percentage as much smaller, from 1 to 4 per cent. In Meyer's 24 group of forty-nine cases there were six cases of round ulcer. A higher proportion is reported by Neumann, 27 namely, 20 per cent. Fraenkel. 10

however, on the basis of his pathologic studies, regards these percentages as entirely too high. Chiari found but one case of simple ulcer in ninety-eight necropsies in acquired syphilis. Murchison found only three in sixty-five cases of gastric syphilis. It seems, therefore, that the earlier figures of Ewald and Neumann are too high.

The occurrence of syphilitic round ulcer is thought to be due either to a peripheral endarteritis or to the ulceration of a single gummatous lesion in the submucosa. The clinical entity, however, of syphilitic round ulcer must be clearly distinguished from that of multiple gummatous ulcers.

Situation.—The ulcers can occur in any part of the stomach. Most, however, have been described as occurring on the greater curvature and anteriorly, thus distinguishing them from the gummatous ulcers that occasionally involve the greater part of the gastric mucosa.

Symptoms.—These are indistinguishable from those of simple round ulcer, although attention has been called to a few differences which, however, do not apply to all cases.

Pain: Pain is present in all cases. This is of a characteristic burning quality. In a few cases the pain has been referred to the shoulder, and has had no relation to the intake of food. In most cases, however, the pain is exactly the same as that of gastric ulcer, and it is the pain of an empty stomach. Brunner suggests that the pain is likely to be nocturnal, but a nocturnal exacerbation is not uncommonly noted in simple gastric and duodenal ulcer. Trousseau, Rosanow and Bartumaeus also report the nocturnal character of the pain. Hausmann suggests that this characteristic of the pain is only of value when associated with anacidity as occurred in a case of Fraenkel’s.

Hemorrhage: Hemorrhage is reported as frequent by some and as rare by others. Many of the cases, however, are associated with frequent hematemesis. Mackay has reported two cases of violent hematemesis, both cured by mercury and iodid. Lockwood reports a case of death from hemorrhage, as does also Sheib. Hemorrhage.

32. Bartumaeus, Cited by Barbier (Footnote 3).
therefore, cannot be regarded as in any way diagnostic of the condition. In some of the cases where at postmortem there were the most extensive erosions, hemorrhage had not occurred.

Vomiting: Vomiting is generally present in all cases sooner or later, and is no more diagnostic than pain or hemorrhage.

Loss of Weight.—Loss of weight has been recorded in those cases in which the diagnosis has not been made early, and in certain cases may be so extreme as to suggest carcinomatous ulcer. Marked secondary anemia and cachexia, particularly where there has been hematemesis, are recorded.

Perforation.—Perforation is recorded in two cases, one by Selenew and one by Selenew. In both death occurred from general peritonitis. In Selenew's case the perforation occurred following a second administration of arsphenamin.

Gastric Analysis.—The gastric analysis presents a most varied picture, and in this it differs perhaps in its only point from common peptic ulcer. Hyperacidity and anacidity both are recorded and are mentioned by some authors as diagnostic. Hausmann regards anacidity as typical for stomach syphilis and points to the large number of cases in which this has occurred. Hypersecretion may occur, as reported by Robin, and there may be an entirely normal stomach finding with marked symptoms of ulcer. According to Hausmann, in 135 recorded cases no gastric analyses were made. Three cases of Einhorn's, however, two of Lenzman's and one of Dominici's were unassociated with anacidity, and the latter does not regard anacidity as diagnostic of stomach syphilis. A most critical survey of the cases, however, brings anacidity forward as a striking characteristic of fully three-fourths of the recorded cases in which gastric analyses were made. Smithies, who reports twenty-six cases of probable gastric syphilis in 7,545 cases of dyspepsia, has noted that achlorhydria was absent in only two cases; he found, moreover, and brings forward as a new point in differential diagnosis, a decrease in the formol index as demonstrated in the method of Sorensen and Schiff. In his cases the formol index averaged 10.2, whereas in eighty-seven cases of gastric cancer and carcinomatous ulcers the index was as high as 21.

Roentgen-Ray Examination.—There is absolutely nothing characteristic in the roentgen-ray picture of syphilitic gastric ulcer. The plates made are indistinguishable from those of ordinary peptic ulcer.

Among the more mild symptoms usually found, and in no way diagnostic, are coated tongue, foul breath and eructation. Pain on pressure is noted, but with no greater frequency than is the case with peptic ulcer.

Diagnosis.—When associated with other symptoms of syphilis the diagnosis is not difficult. Due consideration, however, must be given to the fact that a patient may contract syphilis after the onset of simple peptic ulcer, or that syphilis and peptic ulcer may be coincident in the same person. The occurrence of symptoms pointing to gastric ulcer when associated with anacidity or decreased total acidity should always lead to the suspicion of syphilis. Cases suggesting peptic ulcer which do not yield to the usual dietary measures directed to this condition should also be suspected. Einhorn, Hansemann and others regard the therapeutic test as the greatest point in differential diagnosis. With the routine serologic examination of all hospital patients, few cases of syphilitic round ulcer should escape diagnosis. A recent case at the University Hospital in Cabot's service, however, gave a negative Wassermann in the presence of typical syphilitic ulcer. Spirochetes were demonstrated by Warthin in the excised material.

Prognosis.—This depends entirely on the accuracy of the diagnosis. As marked arterial changes occur, it would seem that untreated cases would be far more likely to perforate or to be exsanguinated by frequent hematemesis than occurs with simple peptic ulcer. Downes and Le Wald state that hemorrhage is less likely to occur in syphilis than in simple ulcer. As a matter of fact, however, the prognosis compares favorably. Undoubtedly, many cases recover spontaneously, as is evidenced by the occurrence of scars from all ulcers seen at necropsy. Under appropriate therapeutic measures the prognosis is excellent. When diagnosed correctly, patients have recovered promptly on specific medication, with the exception of Selenew's patient, in whom perforation occurred following the second injection of arsphenamin.

**Submucous Gummas**

Incidence.—These cases form the largest number of the reported cases of gastric syphilis, and from the standpoint of differential diagnosis they are the most important, since the condition is more frequently operated on and treated as carcinoma than diagnosed as syphilis of the stomach. The largest number of cases, therefore, have been reported from the postmortem room. In the forty-nine acquired cases collected by Meyers gummas occurred in twenty. In the three cases which I have myself observed in the last four years, two have been cases of gumma. At the University Hospital during the past seven years the diagnosis of gastric syphilis has been made in five
cases, in which gumma or tumor were present in three. Of Einhorn's six cases reported by himself, two were cases of gunmas; he has since reported others.

**Situation.**—All pathologists and clinicians are agreed that the lesion always begins in the submucosa. It may remain here as a nodular or diffuse infiltrate, or it may cause definite tumefaction in the mucosa leading to ulceration; in some cases it may not ulcerate. Extension outward may occur and give rise to diffuse syphilitic infiltrates of the serosa and peritoneal involvement, which will be considered later. Any part of the stomach may be involved from the cardia to the pylorus. In cases in which the tumors are multiple the entire gastric surface may be involved. The sites of predilection, however, might be said to be at the pylorus and on the greater curvature.

**Symptoms.**—The symptomatology of gumma of the stomach is most varied, depending entirely on the situation of the lesion, its size, the question as to whether or not ulceration has occurred and the involvement of the surrounding serosa. Thus the symptoms may be those of pyloric stenosis, of extensive ulceration, of peritonitis, of lack of motility of the stomach or of extensive gastric ulcer.

Pain: Pain is recorded as present in those cases in which ulceration occurs, and in which the serosa are involved, or in which there is actual stenosis of the pylorus. Extensive gummatous infiltration of the gastric wall without ulceration has been noted without pain. In one case observed by Hewlett and myself, there were palpable tumors associated with marked dyspeptic symptoms and cachexia in which pain was practically absent. Occurring as it does, however, in the largest number of cases, pain must be regarded as an important symptom, although differing in no way from the pain of other forms of gastric disease.

**Palpable tumor:** This is a very prominent symptom of gastric gumma. Aside from carcinoma there is no form of gastric disease in which tumor occurs more frequently. The tumor may present itself as a distinct globular swelling in the epigastrium or, as occurs in pyloric syphilis, as a more diffuse sense of resistance to the palpating hand. The size of the tumors may vary from that of a walnut to the size of the fist. A slight degree of tenderness on pressure is practically always noted. With regard to the shape of the tumors: They may present themselves as plaques rather than as rounded nodules. Small infiltrates and small gunmas, particularly those on the posterior surface, are very apt, however, not to present themselves as tumor masses.

**Vomiting:** As in other forms of gastric disease, this is common. It has no diagnostic significance and its type depends again entirely on the type of the lesion present. It may be said to be more common in
those forms involving the pylorus than in those form involving the fundus, as here the symptoms are those of definite obstruction. Where ulceration of the mucosa has occurred vomiting, of course, is also present.

Hemorrhage: Not so frequent as in single syphilitic ulcer, hemorrhage, however, is a striking feature of gastric gummas when they have ulcerated into the mucosa.

Perforation.—Perforation is reported as occurring, but seems to be less common in multiple gummatous ulcers than in those arising from single gummas.

Loss of Weight.—Loss of weight occurs in practically all cases. This may vary from a few pounds to extreme emaciation. It is accompanied by symptoms of anemia, particularly in those cases associated with hematemesis, weakness, and in general a picture of extreme debility. In the three cases observed by myself, there was marked cachexia with a loss in one case of one third of the body weight. The loss of weight in general may be said to be more gradual than occurs in carcinoma. In general, loss of weight has not been found to have antedated other manifestations, as so frequently occurs with carcinoma. Analyzing the cases, it would seem that in syphilis it usually follows the definite manifestations of the disease.

Among the milder symptoms are those invariably associated with any form of gastropathy: loss of appetite, furred tongue and anorexia. These, as a rule, are the premonitory symptoms. Any one of the foregoing symptoms, however, may present itself as the first. Usually a history of prolonged dyspepsia from several months to several years is elicited. The dyspeptic symptoms vary considerably so that no diagnostic importance attaches to them. In some cases vomiting has occurred periodically, in others the onset has first been noted as a gradual loss of appetite. Some cases are ushered in by a brisk hematemesis following dietary indiscretion. Often palpable tumor in the abdomen with pain is the first symptom.

Roentgen-Ray Examination.—The roentgen-ray findings are of absolutely no value as differentiating the condition from carcinoma. The radiographic pictures of the two are identical.

Gastric Contents.—These vary from normal, as recorded in a few cases, to hyperacidity and anacidity. Here again there are no definite criteria. The largest number of cases have shown a relative achlorohydria, and this symptom is pointed to by Hausmann and others as of considerable diagnostic importance.

Diagnosis.—The diagnosis of gumma from the symptomatology, the dyspeptic history and clinical findings is well nigh impossible in the majority of cases. As in other forms of syphilis, the mistake
should be less frequent today in the light of the laboratory assistance than heretofore. It may be observed as a good general rule that no case should be explored or operated on for carcinoma or for tumor until a careful scrutiny into the history and possible concomitant findings with regard to a coexistent syphilis has been made. If this were done, many patients would undoubtedly be saved from operation. Of perhaps some slight value in the differential diagnosis from carcinoma is the slower degree of cachexia and emaciation. The association of nodes in the neighboring viscera, notably the liver, furnishes added difficulty to the differential diagnosis, since in a number of cases of gastric gumma, gummatous nodes in the liver have occurred, simulating the picture of metastatic carcinomatous nodes. The value of the therapeutic test, together with a history of preexisting syphilis, furnish the only valuable points in differentiation. It has been urged by some that in a doubtful case the administration of intensive mercurialization for a few weeks can in no way influence the progress of a carcinoma badly and may make for a miraculous cure and establish the differential diagnosis if the case be one of gumma.

Prognosis.—The prognosis depends entirely on the early diagnosis. Many patients have made brilliant recoveries both with and without operation. In the case diagnosed by Hewlett and referred to me for treatment, the patient made a most astonishing recovery within a few weeks, all traces of tumor and all gastric symptoms disappearing. Similar results are reported by Einhorn, Morgan, Pewsner, Hausmann, Niles, and others.

Treatment.—See chapter on treatment.

DIFFUSE SYPHILITIC INFILTRATION OF THE GASTRIC MUCOSA GIVING RISE TO DISTORTION

Incidence.—This is a rare form and is due to a combination of diffuse syphilitic infiltrates of the submucosa associated with involvement of the serosa. Such cases are reported by Mathieu, Downes and LeWald, Leven and Barret, and LaFleur. Most cases have been discovered at necropsy, after the patient had been treated for chronic hypertrophic gastritis, or with a diagnosis of chronic linitis. The presence of scarring and contraction in and about the pylorus has

41. La Fleur: A Case of Gastric Syphilis, Montreal M. J. 32:488, 1903.
given rise in a number of cases to definite hour-glass constriction, and several cases have been reported as hour-glass constriction due to syphilis.

Symptoms.—These are varied and generally refer to chronic gastritis with loss of motility. In Leven and Barret's case there was marked emaciation, anemia, extreme pain and vomiting. Roentgen-ray examination showed a bilocular stomach with marked contraction beginning 10 cm. from the cardia. The patient recovered completely under ioddid and mercury. In LaFleur's case there was a similar history of pain and occasional vomiting of long duration with loss of weight. Gastric contents showed a total anacidity. Extensive ulceration into the mucosa had occurred. The stomach was markedly dilated and an hour-glass constriction due to contraction was found at operation 2 or 3 inches from the pylorus. This patient recovered entirely on the administration of mercury. Marked scarring and atrophy occurred also in the classic case of Hemmeter and Stokes, but without definite constriction.

In general, this form of gastric syphilis seems to be somewhat more benign than the other forms. Although associated with extreme emaciation, most patients have recovered, and repeated hematemesis is less common.

Roentgen-Ray Examination.—The roentgen-ray findings in this form of gastric syphilis are perhaps of greater value than in other forms. Smithies points out that marked contraction and distortion, when associated with a high degree of peristalsis, is very suggestive of syphilis.

Diagnosis.—These cases must be differentiated from cases of chronic hypertrophic gastritis and from cases of pyloric stenosis associated with dilatation. The diagnosis again depends on careful analysis of the case. The gastric contents are of some value if associated with an achlorhydria and the roentgenologic findings, together with the serologic findings, are the important factors in establishing the differential diagnosis.

Prognosis.—From the cases reported, this would seem to be excellent when the condition is recognized. It is modified definitely, however, by the presence or absence of pyloric involvement. In a case that I have under observation, in which there is extensive hypertrophy of the stomach and some contraction about its middle, the patient has made no headway, due to the marked stenosis at the pylorus caused by an old syphilitic process in that region. Such cases as these, however, after the constitutional treatment has been advanced, lend themselves admirably to surgical interference, and after gastro-enterostomy has been performed the prognosis is excellent.
PYLORIC SYPHILIS

Incidence.—The entire clinical picture of gastric syphilis is changed when the lesions which have been described above occur in or about the pylorus. Under such circumstances the symptomatology resembles closely that of pyloric disease, that is, pyloric ulcer in the case of ulcerated gummas, pyloric stenosis in the case of scar lesions and partial stenosis when there is a peripyloric gummatus infiltrate. A fairly large number of the cases of gastric syphilis are of this type of involvement. In Hemmeter and Stokes' case there was a marked localization of a diffuse process at the pylorus, giving rise to a stenosis. In spite of the stenosis, the remainder of the stomach was small and atrophic. Similar cases are described by Einhorn, Hayem, Gross, Siegh-heim, Muhlman, Muller, Eppinger and Schwarz.

Symptoms.—These simulate closely those of pyloric disease.

Vomiting: Vomiting is, of course, the most prominent symptom. It occurred in practically all of the cases and has, as in stenosis, a definite relation to the ingestion of food. Retention of contents, distaste for food, pain, particularly localized to the pylorus, occasionally described as radiating to the back, have been noted as present. Definite tumor occurred in a large percentage of the cases, and this is described as occurring to the right of the midline, and is pointed to as an important diagnostic factor.

Hemorrhage: Hemorrhage has been reported as occurring in those cases in which there was definite ulceration. A striking feature in all the cases was the marked emaciation, so that when associated with tumor, the diagnosis pointed to pyloric carcinoma.

Roentgen-Ray Examination.—The roentgen-ray findings are similar to those of pyloric stenosis of other types and are in no way diagnostic.

DIFFICULTY OF DIAGNOSING GASTRIC SYPHILIS

In considering the pathology and clinical features of gastric syphilis, one is impressed by the great difficulty in diagnosis owing to the fact that there is nothing specific in any case that points to syphilis rather than to any other form of gastropathy. Any one of the reported cases, so far as the clinical picture is concerned, could easily pass as a classical type of one or other of the forms of gastric disease. In all cases of gastric disease, therefore, the greatest importance attaches to the possibility of syphilis, particularly in cases in which there may be some deviation from the type as classically described. A patient who has

gastric disease will be benefited by a careful anamnesis as to a preexisting syphilis, and a careful examination as to other symptoms of syphilis in other parts of the body. Due reservation must be made, however, for the possible association of syphilis and other forms of gastric disease, particularly the frequent association of syphilis and cancer. It is not at all unlikely that many carcinomas of the stomach may find their points of origin in scars of recent syphilitic ulcers. Such degenerations occur in syphilitic lesions in the rectum and on the skin, and it is highly probable that they occur in the stomach as well. In any event, in doubtful cases, the therapeutic test remains as the best aid to diagnosis. A case of gastric disease which resists all other forms of medication and clears up promptly on the intelligent administration of antisyphilitics is rather more than circumstantial evidence as to the syphilitic nature of the process.

44. In addition to those already given, the following references may be of interest:

Klebs: Pathologische Anatomie 1:262, 1869.
Cornill and Ranvier: Manual de histologie pathologique 2: 1884.
Reser, J.: Syphilis and Gastric Ulcer, British M. J. 2:696, 1891.
A PRACTICAL METHOD OF ROENTGEN-RAY DOSAGE WITHOUT THE AID OF A RADIOMETER.

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For the past two and a half years this method has been in vogue in various hospitals, clinics, and offices throughout the country. The primary reasons for its adoption were the lack of supply of reliable radiometers and the ease and practicability of its application as compared with the intricate and exacting detail necessary for the proper use of various radiometers.

The method can be used with any standard interrupterless machine and Coolidge tube. It is not necessary to standardize each outfit, for one who is familiar with the apparatus ought to master the technic of this method in a very short time, so that he can set and maintain the four factors constantly throughout the time of exposure.

The standard of all roentgen-ray dosage is known as the erythema dose; in other words, the quantity of roentgen-ray necessary to produce an erythema of the skin in from ten to fourteen days after exposure.

The amount of radiation reaching the skin of the part exposed is determined by four fundamental factors: the voltage, expressed as $K\ V$ or kilovolts; the milliamperage or current, expressed as $M\ A$ or milliamperes; the time, expressed as $T$ in minutes, and the distance, expressed as $D$ in inches from the target of the tube to the skin. Voltage, or $K\ V$, is very often expressed in the number of inches between the spark gap terminals which relatively correspond to the number of kilovolts. The actual determination of the spark gap is obviously just the amount of pressure or voltage that gives a spark across the terminals without the tendency to arc and which, at the same time, maintains the milliamperage desired in the tube.

The analysis of these four factors necessitated maintaining three of them constant throughout the exposure, and varying the one under investigation. Thus maintaining $3\ Sp\ G\ 3\ M\ A$ for five minutes at a distance of 8 inches produced an erythema in the usual time, ten to fourteen days, over an area of the chest which happened to be covered
with hair. The third week after exposure the hair came out and showed no signs of returning at the end of six months. Another area of the chest was exposed and given $3 \text{Sp G 3 MA}$ at a distance of 8 inches for four minutes instead of five minutes. In this area the hair fell out during the third week, and had all returned by the fourth month after exposure.

The latter formula, namely, $3 \text{Sp G 3 MA}$, four minutes with 8 inch distance, we will call one skin unit. This, then, is the dose required

![Fig. 1.—Four areas of patient's back treated with the roentgen ray.](image)

for the treatment of ringworm of the scalp, thus insuring the return of the hair, whereas if five-minute exposures were used the hair would not return, and a certain amount of permanent baldness would ensue.

If a pastil were placed 8 inches from the target of the tube and the factors $3 \text{Sp G 3 MA}$ and four minutes' time given, the color produced on the pastil would correspond to one on the scale of a Holzknecht radiometer which, expressed in Holzknecht units, would be 4 H, because Holzknecht readings were originally all made at half distance.
By using the pastils and a Holzknecht radiometer it has been found that if you double the time, the voltage, or milliamperage separately, maintaining the other three factors constantly, that you will double the dose when the roentgen-ray is used without a filter. Also by placing two pastils, one at full distance, and the other at over half the distance from the target of the tube to the skin, that the pastil reading at the half distance will be four times that of the one placed on the skin or full distance, therefore inversely to the square of the distance, the same as the law of light.

\[
\frac{3 \text{ Sp G} \times 3 \text{ M A} \times 4 \text{ minutes}}{8 \text{ inch} \times 8 \text{ inch}} \quad \text{or} \quad \frac{3 \times 3 \times 4}{8 \times 8} = \frac{9}{16}
\]

The standard formula for an erythema dose would be:

\[
\frac{3 \text{ Sp G} \times 3 \text{ M A} \times 5 \text{ minutes}}{8 \text{ inch} \times 8 \text{ inch}} \quad \text{or} \quad \frac{3 \times 3 \times 5}{8 \times 8} = \frac{45}{64}
\]

In order to prove the actual working of the above formulas, let us take the factors as expressed in the above list.

1. If \( \frac{3 \text{ Sp G} \times 3 \text{ M A} \times 2 \text{ minutes}}{8 \text{ inch} \times 8 \text{ inch}} \) is used, what is the dose?

\[
\frac{3 \times 3 \times \frac{9}{4}}{8 \times \frac{9}{4}} = \frac{9}{32}
\]

\[
\frac{3 \times 3 \times 4}{8 \times 8} = \frac{36}{64} = \frac{9}{16} \quad \text{the standard or one skin unit}
\]

\[
\frac{9}{16} \times \frac{9}{2} = \frac{1}{2} \text{ skin unit}
\]

2. With 6 Sp G instead of 3 Sp G, other factors remaining constant, the process would be:

\[
\frac{3 \times \frac{9}{2} \times 3 \times 2}{8 \times \frac{9}{2}} = \frac{9}{16}
\]

\[
\frac{9}{16} \times \frac{9}{2} = \frac{1}{2} \times \frac{9}{2} = 1 \text{ skin unit}
\]
3. With 6 MA instead of 3 MA, other factors remaining constant, thus:

$$\frac{3 \times 3 \times 9}{8 \times 2} = \frac{9}{16}$$

$$\frac{9}{16} = \frac{\mathcal{F}}{\mathcal{F}} \times \frac{9}{\mathcal{F}} = 1 \text{ skin unit}$$

4. With 4 minutes' time instead of 2 minutes' time, the result would be:

$$\frac{3 \times 3 \times 9}{8 \times 2} = \frac{9}{16}$$

$$\frac{9}{16} = \frac{\mathcal{F}}{\mathcal{F}} \times \frac{9}{\mathcal{F}} = \frac{1}{3} \text{ skin unit}$$

5. With 16 inches distance instead of 8 inches and 4 minutes' time with 3 MA and 3 Sp G, the result is:

$$\frac{3 \times 3 \times 9}{16 \times \frac{9}{4}} = \frac{9}{64}$$

$$\frac{9}{64} = \frac{\mathcal{F}}{\mathcal{F}} \times \frac{9}{\mathcal{F}} = \frac{1}{4} \text{ skin unit}$$

Now let us take the factors as given under 1 but assume that you want to use 3 Sp G, 3 MA and 8 inches distance, and desire to give $\frac{1}{2}$ of a skin unit and do not know how much time to use.

$$\frac{3 \times 3 \times \frac{9}{16}}{8 \times 8} = \frac{9}{64}$$

The standard for 1 skin unit is $\frac{9}{16}$; for $\frac{1}{2}$ of a skin unit it would be $\frac{9}{32}$.

If, then, $\frac{9}{64}$ represents all of the factors except time, and $\frac{9}{32}$ equals $\frac{1}{2}$ skin unit, $\frac{9}{32} = \frac{\mathcal{F}}{\mathcal{F}} \times \frac{9}{\mathcal{F}} = 2 \text{ minutes' time}.$

With the factors expressed in 2 what would the Sp G be using 3 MA 2 minutes' time at 8 inches distance to produce 1 skin unit?

$$\text{Sp G} \times \frac{3 \times 9}{8 \times \frac{9}{4}} = \frac{3 \times 9}{32 \times 16} = 1 \text{ skin unit, therefore,}$$

$$\frac{9}{16} \times \frac{3}{\mathcal{F}} \times \frac{2}{\mathcal{F}} = 6 \text{ Sp G}$$
With the factors expressed in 3, what would the MA be using 3 Sp G for 2 minutes' time and 8 inches distance to produce 1 skin unit?

\[ \frac{3 \times MA \times \frac{3}{8}}{\frac{9}{32}} = 1 \text{ skin unit, therefore.} \]

With the factors expressed in 4, at what distance would it be necessary to place the patient from the target of the tube to produce 1 skin unit using

\[ \frac{3 \times 3 \times 4}{D \times D} = \frac{36}{16} = 1 \text{ skin unit, therefore.} \]

The distance required to produce one skin unit is found by dividing the product of the three known factors by the standard formula for one skin unit \( \frac{9}{16} \) instead of dividing the standard formula \( \frac{9}{16} \) by the fraction with unknown distance as exemplified in obtaining the other factors.

The determination of distance and the number of skin units are both obtained by the same method.

From the foregoing calculations it is evident that the dose of unfiltered roentgen ray can be accurately and easily determined for both fractional and massive dosage. When all four factors are known the product of their formula divided by the product of the standard formula for one skin unit, namely, \( \frac{9}{16} \), will indicate the dosage in skin units. When, however, any one of the four factors is unknown and the other three decided on, the product of the standard formula for one skin unit, namely, \( \frac{9}{16} \), divided by the product of the three known factors, indicates the unknown factor for one skin unit. When distance is the unknown factor, note the exception to this rule.

Owing to a proportionately large filtration of the ray generated below a 3 m gap or 3 Sp G by the glass in the Coolidge tube the above rule of unfiltered dosage does not apply.

This method of estimating roentgen-ray dosage is also applicable in determining the number of plates that can be taken of a given case without the production of a permanent alopecia or roentgen-ray burn.
For instance, how many plates or exposures can be made of a frontal sinus or anteroposterior diameter of the head without producing an epilation or erythema of the scalp? The formula or factors for such an exposure might be as follows:

\[
\begin{array}{cccc}
\text{Sp G} & \text{MA} & D & T \\
5\frac{1}{2} & 25 & 18 \text{ in.} & 10 \text{ sec.}
\end{array}
\]

This means that the plate is 18 inches from the target of the tube and in this instance the scalp is 10 inches from the anode. In order to find the dosage which the scalp will receive the formula must be changed from 18 inches to 10 inches.

\[
\begin{array}{cccc}
\text{Sp G} & \text{MA} & D & T \\
5\frac{1}{2} & 25 & 10 \text{ in.} & 10 \text{ sec.} = \frac{1}{6} \text{ of a minute}
\end{array}
\]

\[
\begin{array}{c}
5\frac{1}{2} \times 25 \times \frac{1}{6} = \frac{275\frac{5}{12}}{100} = \frac{11}{48}
\end{array}
\]

Take the standard formula for an erythema dose:

\[
\begin{array}{c}
3 \times 3 \times 5 = \frac{45}{64}
\end{array}
\]

Divide the erythema dose by the dose for each exposure:

\[
\begin{array}{c}
\frac{45}{64} \div \frac{11}{48} = \frac{3 \times 3 \times 5}{8 \times 8} = \frac{45}{135} = \frac{3}{9} = \frac{3}{11} = \frac{3}{14}
\end{array}
\]

Thus three plates with these factors would not cause an erythema, but may produce a temporary alopecia.

By dividing the product of the factors of the standard formula for an erythema dose, namely, \(\frac{45}{64}\), or one skin unit \(\frac{9}{16}\), by an exposure formula, provided the skin distance is taken instead of plate distance, the roentgenologist can determine the number of plates he can make without producing an erythema or temporary epilation.

Four areas of a patient's back were treated with the following factors for each area:

1. \(\frac{3 \times 3 \times 5}{8 \times 8} = 1\frac{1}{4} \text{ skin unit}\)
2. \(\frac{3 \times 6 \times 2\frac{1}{2}}{8 \times 8} = 1\frac{1}{4} \text{ skin unit}\)
3. \(\frac{3 \times 4\frac{1}{2} \times 3\frac{1}{2}}{8 \times 8} = 1\frac{1}{4} \text{ skin unit}\)
4. \(\frac{3 \times 9 \times 1\frac{1}{2}}{8 \times 8} = 1\frac{1}{4} \text{ skin unit}\)
The photograph of the patient taken ten days after treatment demonstrates that all the areas coincide, yet in two of them, namely, (2) and (4), the spark gap or Sp G is doubled and one-half the time taken for exposure that was given in (1) and (3) respectively. It therefore follows that if the Sp G is doubled and the time reduced one-half, the same degree of erythema will be produced, other factors remaining constant.

From the standpoint of quality of the roentgen ray in the above experiment the formula with 6 Sp G and 9 Sp G should give a very large proportion of penetrating rays as compared with the 3 Sp G and 4½ Sp G. Hence one would expect that these penetrating rays derived from the higher Sp G would pass through the skin, and it would take much longer to produce the same erythema as was produced by the 3 Sp G and 4½ Sp G formulas which give a large proportion of rays of low penetration, and naturally would be quickly absorbed in the outer layers of the skin and quickly produce a burn.

By actual experiment the reverse proves true. For it took just one-half the time to produce the same biologic effect in the doubled Sp G doses (6 Sp G and 9 Sp G) as it did in the 3 Sp G and 4½ Sp G formula.

It is, then, apparent that quality of the ray and absorption of the rays of long wave have little to do with the biologic effects in the skin. On the other hand, it seems that the factor which determines this effect is solely the quantity of roentgen ray reaching the skin, for it is obvious that a high Sp G produces more rays that reach the skin than the same dose with a low Sp G or spark gap.

We published the original communication establishing the principles and practical application of this method for both filtered and unfiltered dosage in the June issue of the American Journal of Roentgenology, 1917. Since then Drs. MacKee¹ and Wise² have, in their respective papers, pointed out the efficacy of this method in the calculation of roentgen-ray dosage in dermatology.

ACRODERMATITIS CHRONICA ATROPHICANS

WITH REPORT OF CASE

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Acrodermatitis chronica atrophicans is a comparatively new dermatologic problem of great theoretical and practical interest. In spite of a steadily increasing number of observations it is still a condition sufficiently rare to justify the publication of a new example. The case to be reported is one of such exquisite and clear-cut type and possesses so many clinical features of interest as to furnish an additional incentive for placing it on record.

The case was referred to the writer by Dr. Herman Sugarman of this city.

REPORT OF CASE

Personal History.—Mr. H. R., a Jew born in Russia, aged 44, married for twenty years, is the father of four children. The patient denies having previously suffered from any serious disease and regards himself as in perfect health excepting the trouble with his legs, which condition had caused him to be bedridden for the last three weeks. The patient is a driver by occupation. Twelve years ago he fell from a wagon, and the wheels passed over his hands and legs. The patient admits having been a heavy drinker for years, but lately he had been drinking very moderately. His skin trouble had started about ten years previously when red patches appeared on the feet and hands, slowly developing and steadily progressing upward toward the elbows. It did not bother him, however, excepting slight occasional itching spells, and he had not paid any attention to the condition until the last few weeks when his legs began to swell and he had to go to bed.

Physical Examination.—The patient is a rather strongly built man, weighs 150 pounds, and is inclined to obesity. Examination of the visceral organs fails to reveal any abnormalities.

Skin Findings.—Examination reveals a striking picture of large areas of reddened skin, occupying both lower and upper extremities symmetrically and extending uniformly from the bases of the toes to the waist line, and from the proximal phalanges of the fingers to and above the elbow joints. The whole affected surface presents a mild, branlike exfoliation. The redness is diffuse in character, has ill defined margins and merges imperceptibly with the normal skin. On the general background of this diffuse, rather dusky area of redness, mottled irregularly by numerous faintly margined patches of normal or near-normal skin, there are to be found many areas of different degrees of color-intensity, from pale white to dark purplish. The most striking changes in both the coloring and the consistency of the skin are to be found on the
dorsal surfaces of the feet, around the knee joints, both on the extensor surfaces and in the popliteal spaces, on the backs of the hands and on the elbows. As a whole, the affected areas present a remarkable mottled and composite picture showing an infinitely complex blending of colors and various stages of pathologic processes, almost defying an exact and detailed description.

Lower Extremities.—At the time of the first examination the lower extremities presented more striking and more acute phenomena than the upper. Both legs, particularly the left, were swollen and on the background of dusky redness showed bright red inflammatory areas extending from the ankle joints to the knees. Both legs were edematous, especially in the lower half, and were very tender on pressure. In spite of this superadded picture of acute lymphatic infection, certain conspicuous features, such as purplish areas with a network of dilated veins, atrophic patches and a peculiarly resistant edema in some parts, plainly pointed to deep organic changes occurring as part of the primary pathologic process.

In four weeks this acute superadded infection cleared up, and the following description presents the condition in its primary chronic state: The dusky red hyperemic area starts from the bases of the toes and increases in intensity as it extends upward. The backs of the feet present a mottled picture of dark purplish discoloration, particularly at the periphery, with a paler central area, which gives a peculiar sense of resistance and sclerosis to the palpating finger. The skin of this area cannot be pinched or lifted into a fold. Here also is to be found marked evidence of atrophic changes manifested by thinness and dryness of the skin. However, these various processes seem to be intimately intermingled and cannot be localized into separate areas.

On the lower third and around the ankle joints of both legs there are to be seen a few indolent ulcers from a pinhead to a small coin in size. They are all of the same character—very irregular in shape, 0.25 to 0.5 centimeter in depth, without any evidence of inflammatory reaction or infiltration around the edges; they give the impression of a breaking down of the tissues with a dry, crumbling, cheesy mass covering the bases of the ulcers, with no granulations or pus. The largest of the ulcers was of a peculiar jagged appearance over the lower third of the left tibia. The base of this ulcer is rather clear and shows bare muscle tissue. The patient states that he gets these ulcers from time to time as a result of trauma, and they heal slowly under local medication. (This statement was borne out by subsequent observation.)

The tibial surfaces present a mixed condition of tense sclerotic infiltration with atrophic changes of the skin. The tensely infiltrated area also affects the skin of the flexor surfaces of the legs, but there the inflammatory features predominate over the atrophic. As a result of closely intermingled processes of scleroderma-like infiltration and atrophy, the tibial surfaces present a peculiar network-like picture of rather regular quadrangular plaques with red, inflammatory infiltrated bands and stripes and paler tense atrophic spaces, making up a composite stratified and reticulated area. The knees, particularly on the extensor surfaces, present a perfect type of "wrinkled cigaret paper" atrophy surrounded by a wide zone of a dark purplish area of dilated veins and dark brown pigmnetations. The popliteal spaces also show a considerable advanced state of atrophy. Higher up on the thighs the same dusky redness with a branlike exfoliation completely encircles the limbs. On the anterior aspect of the thighs the redness gradually merges with the normal skin of the inguinal region, the skin here showing only a very mild degree of infiltration and none of the atrophy.
On the posterior aspect of the thighs the sclerotic infiltration is very pronounced. Two symmetrical, strikingly pale sclerotic bands stretch almost the whole length of the thigh—"femoral bands," analogous to the "ulnar and tibial bands" mentioned by Fred Wise. Higher up, symmetrically disposed on each side in the gluteal segment, above the gluteocruclial fold and near the median line, can be seen a half-palm sized patch of markedly atrophic skin on a dark purplish background; and symmetrical patches of wrinkled atrophy somewhat smaller in size on each side in the region of the trochanter major.

The area of dusky redness reaches the waistline and extends even beyond it. The upper boundary of this hyperemic area is so ill defined as to render it well nigh impossible to define its exact boundary. It appears as if the process of extension of the hyperemia is not yet completed and as if there was a tendency to creep still farther upward.

An interesting feature, apparently wholly of incidental nature, is the presence on the back of from fifteen to twenty well defined cutaneous lipomata varying in size from a buckshot to a large cherry—soft, lobulated, movable, some of them sessile and some pedunculated, with the overlying skin unaltered in color and consistency.

Upper Extremities.—The skin lesions on the upper extremities maintain the same general type of symmetrical distribution as those on the lower. The hyperemic zone starts on the back, of the left hand from the base of the third phalanx; on the right hand, from the base of the second phalanx. It goes upward and fades with an ill defined margin, on the right side two inches, on the left three inches above the wrist, with a wide, dusky red band extending up to the elbows. The palms are unaffected. Most striking changes are to be seen on the backs of the hands in the metacarpal region, where the skin is reduced to the extreme type of the "cigaret paper" atrophy, with translucent veins and a dark purplish peripheral zone, surrounding central pale, white, partly wrinkled and partly sclerotic and bound down areas.

Reaching the elbows in ill defined and irregular strands the dusky redness is intensified at the points of the elbows, into symmetrical patches of a dark purplish hue with marked atrophic changes but without sclerotic changes. The hyperemic zone merges with the normal skin of the lower third of the arm on each side.

ANALYSIS OF THE CASE

Biopsy was refused, and the case is to be interpreted entirely on the clinical data. However, the gross pathology and the clinical picture are so exquisitely characteristic and so fully developed as to render the diagnosis of the disease unassailable.

The case with one or two variations presents all of the clinical features postulated by Herxheimer and Hartman, and cited by Fred Wise in his review of the subject. A slow and insidious beginning, the changes occurring symmetrically on the backs of the hands and feet as red patches slowly extending upward and encircling the limbs; a slow development of infiltrated areas of scleroderma-like consistency and subsequent involution of these areas into an extreme type of flaccid atrophy—anetodermia; a slow and progressive involvement extending over many years without affecting the general health or producing any visceral symptoms; the development of sluggish, indo-
lent ulcerations on the legs and slight, if any, tendency to attack the trunk of the body—these features amply justify a clinical diagnosis of acrodermatitis chronica atrophicans.

**INDIVIDUAL FEATURES OF THE CASE**

At the same time the case presents quite a number of individual variations and clinical features of interest:

1. Acute superadded streptococcic lymphatogenetic infection of both legs, temporarily masking the underlying primary condition of acrodermatitis chronica atrophicans.

2. Inflammatory redness and infiltration are well developed and vastly predominate in relation to the size of the affected area, over the atrophic changes which are limited to a few localities.

3. The presence of very well developed "femoral" bands and the absence of "ulnar and tibial" bands.

4. The fingers are involved with the exception of the last phalanges.

5. The presence of lipomata on the back.

6. The tendency of the inflammatory area to extend beyond the waist line.

7. The absence of nodular infiltrations and "fibrous" tumors.

8. The absence of a well defined "immunity area" below Poupart's ligament.

9. The history of alcoholism and of a serious injury which may be plausibly invoked as etiologic factors of the affection.

10. A rather rapid progress and extension of the process which in ten years has covered the maximal area so far recorded in this disease.

**COMMENT**

The writer's attention to the subject of acrodermatitis chronica atrophicans has been attracted by an able presentation of the subject by Fred Wise in a series of three articles. Wise, in reviewing and analyzing the literature very concisely and distinctly compares two prevalent and opposing views represented by Finger and Oppenheim on one side and by Herxheimer and Hartman on the other.

ACRODERMATITIS CHRONICA ATROPHICANS VERSUS IDIOPATHIC ATROPHY OF THE SKIN

The writer is strongly inclined to agree with Fred Wise in endorsing Herxheimer and Hartman's contentions. The name "acrodermatitis chronica atrophicans" seems to have been admirably selected to describe not only the clinical symptomatology, but also the pathological characteristics.

The objection of Finger and Oppenheim to the separation of acrodermatitis chronica atrophicans into a distinct clinical entity is advanced on the principle that the mere difference in localization of lesions does not justify the isolation of this type from others. This may be valid as an abstract principle, but it can hardly be sustained on clinical grounds in this particular instance. So steady a beginning of the process at the ends of the extremities, a so strictly symmetrical involvement and so uniform and regular clinical picture of acrodermatitis chronica atrophicans—are all features so striking and unique that, though the affection may not have a separate etiology and pathogenesis, it deserves to be emphasized as a separate clinical entity. What is more, Finger and Oppenheim admit that even in the main group of cases termed by them as dermatitis atrophicans diffusa the lesions are localized mostly on the extremities, symmetrically on the extensor surfaces, first on the lower and then on the upper, and that the extension of the eruption on the trunk even in this group is not common.

Thus the involvement of the extremities seems to be the clinical feature applicable to the great majority of cases of this whole group. This being the case, the contention of Herxheimer and Hartman that acrodermatitis chronica atrophicans can be considered as a separate clinical entity is fully justified. In fact, it might be more plausible to characterize this whole group of progressive atrophic dermatitides as acrodermatitis and to consider the minority of cases in which the localisation of lesions deviate from the main type, as mere variants and atypical cases of acrodermatitis chronica atrophicans.

ACRODERMATITIS CHRONICA ATROPHICANS VERSUS SCLERODERMA

A feature that gives rise to the most confusion and greatest difficulties in the differential diagnosis of acrodermatitis chronica atrophicans is the scleroderma-like infiltration. In many cases reported under a diagnosis of acrodermatitis chronica atrophicans scleroderma-like infiltrations were so marked as to give rise to a doubt whether the case was an atypical case of atrophic scleroderma or a combination of acrodermatitis chronica atrophicans with scleroderma. In the writer's
opinion, the infiltration in acrodermatitis chronic atrophicans is not identical with the sclerodermic infiltration and can be differentiated, both on clinical and pathological grounds.

Clinically, a typical case of scleroderma and a typical case of acrodermatitis chronic atrophicans differ so widely that they can hardly give rise to confusion. It is the atypical and transitional cases that render a differentiation at times difficult. But even then, irrespective of characteristic distribution, there is one clinical symptom that can be taken as a fundamental differential feature; namely, the presence, in acrodermatitis chronic atrophicans, of a diffuse inflammatory hyperemia, which has a tendency to extend beyond the area of infiltration. Scleroderma proper is a purely degenerative process and not an inflammatory one, and in its uncomplicated form it is manifested by a whitish color, paler than the surrounding tissues, and not by an inflammatory redness. A dark red and bluish hue due to the network of translucent veins shining through the atrophic skin in the later stages, has nothing to do with the inflammatory redness preceding and accompanying the infiltration stage.

Another feature of equal importance in the differentiation of true scleroderma from acrodermatitis chronic atrophicans in the infiltrative stage is the surface marking of the patch. In scleroderma it is smooth, shiny, waxy; in acrodermatitis it is rough and shows a bran-like exfoliation of mild degree. In fact, in its early stages, acrodermatitis may resemble somewhat a mild exfoliating dermatitis.

Histopathologically, a confusion may arise only in the atrophic end-stage, the differences in the early stages being marked enough to prevent confusion. In scleroderma it is universally agreed that there are practically no changes in the epidermis, and that the hypertrophy of the collagen and elastic fibers is the most constant and characteristic change. In acrodermatitis there is no such increase of these elements, even in the infiltrative stage. On the contrary, an early disappearance of elastic fibers is regarded as the most constant and characteristic histologic feature. It is only in the atrophic end-stage that the histologic picture in both conditions shows the same phenomenon of the decrease of elastic fibers due to the pressure of the infiltrate. In this stage a differentiation is difficult and is to be made on clinical grounds.

Thus, both clinically and pathologically, it would seem to be justifiable to regard the infiltration in acrodermatitis as a different process from that of scleroderma, even though at certain periods there is some clinical resemblance. In some cases, such as those reported by Kanoky and Sutton and by Kinsbury, it must be admitted that there is a possibility of the coexistence of both conditions, possibly due to the same etiologic factors.
SUMMARY

On the strength of the study of the reported case and of the available literature the following deductions suggest themselves:

1. Acrodermatitis chronica atrophicans is a well defined clinical entity.

2. Its etiology may be manifold in nature and complex in any individual case.

3. The scleroderma-like infiltrative process observed in acrodermatitis is not identical with scleroderma, either clinically or pathologically, though the combination of acrodermatitis and true scleroderma is possible.

CORRECTION

In the article on “Congenital Ectodermal Defect, with Report of a Case” by Dr. W. H. Goeckermann, which appears on page 396 of the April issue, the legends for Figures 7 and 8 should have been reversed.
Obituary

FREDERICK J. LEVISEUR, M.D., 1860-1920

Dr. Frederick J. Leviseur died on March 19, after a brief acute illness, aged 60.

Born in Cassel, he was the descendant of a highly cultured family of teachers, artists and writers. He studied medicine at the universities of Bonn, Berlin, Edinburgh and Goettingen, and graduated at the latter university in 1884. The following year he came to America to devote himself to the practice of his specialty.

Leviseur did not like the fight of debate, but was a quiet, unassuming worker who would prefer to pass unnoticed, held back by a strange reticence rather than push himself into the foreground. He was not a prolific writer and came to medical meetings as a listener, not as a talker, controlled by an almost childlike modesty. He was a true and loyal friend and a genial companion. His professional work was a source of great satisfaction to him; he devoted his leisure hours to the study of the classics, music and art. The gentleness and tenderness of his nature endeared him to those who came under his professional care. He had a rare and sweet disposition, bearing no ill will and harboring no ill feeling. During the many years of my friendship and hospital connection with him I have never heard him say an unkind word about others. He was a gentleman, loved by those who knew him well.

Hermann Goldenberg, New York.
Correspondence

THE ARSPHENAMIN TREATMENT OF TUBERCULIDS

To the Editor:—A statement made by Dr. L. Chargin¹ before the New York Academy of Medicine, when presenting a patient with gumma of the tongue complicated by papulonecrotic tuberculid of the forearms and legs, in which he mentions my observations on the treatment of tuberculids with arsphenamin, prompts me to call attention to one or two of the details of this method which Dr. Chargin, if his reported remarks accurately present the situation, has apparently overlooked. The paragraph of his discussion to which reference is here made, reads:

"Of interest in connection with the case was the fact that although the woman had several arsphenamin injections during the past three months (italics are mine), which had completely cleared up the gumma, there had been no effect on the tuberculid. This was mentioned apropos of the recent statement of Stokes, who had observed marked improvement in tuberculids following arsphenamin treatment."

On page 529 of my discussion of the arsphenamin treatment of tuberculids² I endeavored to convey the impression that while improvement is usually apparent "with the first and second injections, it sometimes does not begin to appear until the fourth." Furthermore, "In a case which is progressing favorably, new lesions have ceased to form by the end of the first course, although even in cases which ultimately remain clear there may be slight relapses." From the context of my article it will be apparent that the "course" referred to means six injections in six weeks, not "several arsphenamin injections during the past three months." On the same page I further called attention to the apparent relation of the degree of permanent improvement to the total dosage of arsphenamin, and mentioned 3.8 gm. as an average in those of our patients making the most satisfactory improvement. The maximum amount used in the production of one of our best results was 10.8 gm. On page 528 I took occasion to remark that "the method should not be adjudged inefficient or inapplicable to a particular case until it has had systematic and persevering application." While it is of course possible that Dr. Chargin has employed arsphenamin in accordance with the technic which I have described, his phraseology does not suggest the fact to me.

I believe it is also worth while in this connection to call attention to page 530 of my article, in which I attribute one of our failures to an inadequate early course, and to the final paragraph of my communication (page 538), in which I make the statement that "some of the results produced in the patients longest under observation and treatment have been really remarkable, and failure and lack of improvement can in a number of instances, be explained

by desultory methods. In general the obese types of patients, and those with occult tuberculosis, offer less outlook for radical improvement than other types, but it is impossible at the present time to generalize or to predict in which case improvement may or may not be expected.” Just how much of the failure in Dr. Chargin’s case is attributable to desultory methods rather than to intrinsic defect in this mode of treatment would be difficult to state, but Dr. Chargin’s words suggest to me an unenergetic application of the method.

I am, of course, keenly interested in the experience of clinicians with the use of arsphenamin in treating tuberculids. Four years’ employment of the drug in accordance with the technic described in my article has taught me much about its limitations, particularly with reference to relapse, and about the unwisdom of making rash and overenthusiastic statements. The selection of the case to be treated is a factor in the result, and some outright failures will undoubtedly be attributable both to lack of judgment in this regard and to the fact that the method lacks specificity and is apparently indirect in its action. The employment of mercury in Dr. Chargin’s case may also assist in explaining an unsatisfactory result, since it was distinctly our impression that patients with tuberculids, who were under treatment for actual or suspected syphilis, did well on arsphenamin but reacted unfavorably when mercurialization was begun. I hold no brief for the infallibility of arsphenamin in treating tuberculids, and willingly concede that there is a margin of failure, and that there are definite contraindications to its use. I feel constrained to protest, however, against the citation of my methods when the statement in which my name is used implies the user’s unfamiliarity with, and failure to apply, some of my most explicit injunctions. The administration of “several injections” of arsphenamin, with no account of number, dosage or interval, in the course of “three months,” is certainly not a form of arsphenamin therapy of tuberculids for whose success or failure I wish to stand sponsor, or with which my methods and results should be compared.

John H. Stokes, Rochester, Minn.
Abstracts from Current Literature

SYPHILIS HEREDITAIRE ET DYSTROPHIES. V. Hutinel et H. Stevenin, Arch. de méd d. enf. 23:5 (Jan.) 1920.

Hutinel and Stevenin say it is not surprising that toxic or infectious agents, acting during intra-uterine life and in the first year of life, when nutrition is particularly active, can result in deviations from the formative processes. Acute infections or intoxications, if not too severe, do not have as marked an influence as chronic factors. No one doubts the dystrophic action of alcoholism, tuberculosis, malaria and other diseases. Syphilis, however, takes first place among the infectious diseases whose evolution is essentially gradual and whose parasite shows a truly desperate resistance.

The period of septicemia of hereditary infection is not long; but it is sufficiently long to produce in many of the viscera lesions having a similar character, the majority of which will seem to be cured and to disappear, while others will leave cicatricial traces. In these foci, either minute and latent or large enough to be recognizable, are still parasites, doubtless few in number, but able to become active again and to multiply, either spontaneously or under some accidental influence.

The organs with resistance thus lowered, may, when the infection becomes reawakened, show certain signs clinically recognizable, such as vascular or perivascular lesions, gummas, scleroses and cellular degeneration, all obviously syphilitic.

But, aside from these specific lesions, there may be others of different character, syphilitic only in origin, and capable of being produced by other infections or by intoxication. These lesions are particularly disturbances of nutrition whose variable results rarely permit affirmation of any specificity.

The lesions due to hereditary syphilis may be divided into two groups. In the first are included the specific changes, more or less localized, in which one finds, if not the spirochete, at least its characteristic lesions; in the second group are included various nutritive disturbances—the dystrophies. This distinction has previously been made by A. Fournier and his pupils, who called them syphilitic and parasyphilitic manifestations, and to explain the second group the action of a toxin secreted by the spirochete was invoked. This distinction seems logical, as it has been made in the case of other infectious diseases.

The toxins secreted by the Spirochacta pallida do not seem to be diffusible; they appear to cling to the parasite, and their action is entirely local. The authors therefore feel that it is natural to attribute the production of dystrophies by syphilis to the lesions that the disease produces in a number of important organs. Accordingly, it is necessary to establish a hypothetical distinction between the effects of the parasites and its toxins.

The nutritive disturbances caused by hereditary syphilis present numerous and variable forms. Monstrosities, arrested development, malformation and ageniasies, form a group which the authors merely mention, since the article discusses only the so-called dystrophies. The latter take many forms. Some are local, some partial; sometimes they are very limited. Most of the stigmas
of hereditary syphilis, such as deformities of the teeth, skull, etc., are included in this group. The authors believe these deformities are due more or less directly to latent or apparent changes which the specific septicemia has produced, and therefore result for the most part from local infections; it is, therefore, not surprising that these changes have a maximum of specificity, as they are in reality direct manifestations of the disease. There exists between them and the actual syphilitic lesions no sharp line of demarcation, and their connection with the inherited syphilis is direct, thus explaining their prominent position in clinical history.

On the other hand, there are the general dystrophies. They affect all parts of the body—the bones, most of the joints, genitalia, nervous system, skin, etc., and these alterations often direct attention to the blood. Sometimes they occur singly, but more often they are grouped and associated. They usually accompany some of the local dystrophies which constitute the stigmas of heredosyphilis.

The general dystrophies are poorly explained, especially in grown patients, by a direct action of specific infection. Lacking a better explanation, a toxic origin, purely hypothetic, and not very probable, has been attributed to them. The authors believe that this theory should be eliminated.

One of the authors has held that the cause of these dystrophies should be searched for in the specific lesions that affect many organs, and particularly the endocrin glands of the infant, which exert considerable influence on nutrition and development. The rôle of the glands of internal secretion should be considered predominant in a large number of cases. It is conceded that no organ in the body can be seriously diseased without affecting the system, but it must also be conceded that the organs which regulate nutrition, such as the thymus, thyroid, parathyroid, hypophysis, when seriously affected, can produce especially deviation in nutrition and the great dystrophies so frequently seen in hereditary syphilis. Many of these organs are, furthermore, so frequently involved that in the presence of a dystrophy—such as dwarfism, gigantism, myxedema, acromegaly—it is advisable to consider hereditary syphilis. It must be understood, however, that in affecting these glands the spirochete does not produce effects different from those following other infections and intoxications, which, by different processes, all result in a similar disorganization and functional disturbance of the gland. A thyroid insufficiency, whether produced by tuberculosis, malaria, or by intoxication, if of equal severity, would produce the same result. In all cases the patient would become myxedematous and would have hypothyroidism; or, on the contrary, exophthalmic goiter. The authors ask therefore whether it is unwise to conclude that the general dystrophies are not the direct and immediate result, but on the contrary an indirect immediate consequence of specific infection. Syphilis may be the primary cause, undoubtedly, but it is from the organic or endocrin lesions it produces that these dystrophies result. Like the local dystrophies, then, the general dystrophies are dependent on organic lesions, but, being secondary, they have not the same degree of specificity. They appear less as a manifestation of a particular infection than as the result of an organic lesion.

A third group of dystrophies due to hereditary syphilis is discussed—the organic debilities seen especially in the children of heredosyphilitics. The remainder of this lengthy paper is given over to a discussion of the dystrophies as they show themselves in special organs and parts.

Senear, Chicago.
TUBERCULIDS AND THEIR RELATION TO TUBERCULOSIS OF THE SKIN AND OTHER ORGANS. A CRITICAL REVIEW.

This review is an excellent discussion of the relationship of tuberculids to tuberculosis of other parts. The author's own opinion plays perhaps the greatest part in the discussion. Some literature is cited.

Considering the frequency of tuberculosis, the skin is relatively seldom affected. The skin manifestations of the infection are, however, very varied. For some years after the discovery of the tubercle bacillus it was thought that the only tuberculous lesions were lupus vulgaris, tuberculosis cutis verrucosa, scrofuloderma and ulcus tuberculosum cutis. Within recent years clinical observation and laboratory research have shown that in addition to these four conditions, which have been definitely proved to be due to the presence of living tubercle bacilli, there are numerous others due to, or suspected of being due to, either modified tubercle bacilli or their toxins.

In lupus vulgaris the condition is embolic in origin, and means that there must be an active tuberculous focus somewhere which the physician should make every endeavor to locate. All isolated small spots suddenly appearing on the skin of a child after measles should be looked on with suspicion of tuberculosis and kept under observation for some time. The treatment for these cases is the same as for ordinary lupus, but if not too numerous, surgical excision of each lesion with a wide margin is the best method for all lesions that occur on the covered parts.

The tuberculids comprise lichen scrofulosorum, papulonecrotic tuberculids, sarcoids, and erythema induratum. The lesions of lichen scrofulosorum are the commonest as well as the smallest, and are frequently not noticed by the patient. "This eruption is undoubtedly tuberculous in nature. An absolutely identical eruption may follow the subcutaneous injection of Koch's old tuberculin, and in doubtful cases an injection of that tuberculin will usually bring the eruption of lichen scrofulosorum out again. While the papular form is the most usual one, the eruption, if more acute, may show small vesicles or even pustules. The lesions have the same structure as lupus vulgaris, and the tubercle bacillus, although not easy to demonstrate, has been found by several observers, and in some cases animal inoculations has given positive results."

The papulonecrotic tuberculid microscopically presents the structures of tuberculous tissue. It often closely resembles a secondary syphilid. It is, however, bluer in color, with no other signs of syphilis. It is not itchy. The lesions slowly necrose centrally, crust over and gradually heal. The papulonecrotic tuberculid presents two other variations—acnitis and follicles. Central necrosis, endarteritis, and endophlebitis are common to all. Tubercle bacilli have been found microscopically and by animal inoculation in several cases of papulonecrotic tuberculid.

Erythema induratum scrofulosorum (Bazin's disease) is the best known and largest of the tuberculids. "The lesion consists chiefly of a dense mass of small round cells, but the tubercle bacillus has been repeatedly found and animal inoculations have been positive, so that there is no doubt that they are definitely tuberculous in nature."

"For a considerable time all these forms of tuberculids were considered as toxituberculids, i. e., lesions due to tuberculin circulating in the skin and producing, as it were, a Pirquet's reaction in certain areas, the tuberculin
reaching the skin through the bloodstream. But in the light of more recent knowledge we must admit that they are forms of true tuberculosis due to the actual presence of the tubercle bacillus. This brings them into line with the secondary syphilids, which are known to be due to the presence of the Spirochaeta pallida in the skin. Tuberculids usually disappear spontaneously or after treatment for the original focus, although in very rare cases a tuberculid has developed into lupus vulgaris. The probable reason why they do not oftener develop into lupus is that in such cases the tubercle bacilli are either dead or in a dying condition. As tuberculids usually occur in cases in which the patient is putting up a good fight against the infection, there are sufficient antibody substances in the tissues to ensure the destruction of the bacilli in the skin.

The benign sarcoids of Boeck structurally resemble very closely erythema induratum. They persist for years and do not tend to ulcerate. In a small number of cases animal inoculation with pieces of the swellings has produced tuberculosis. The deeper form of sarcoid described by Darier and Roussy is closely comparable to Boeck’s sarcoid.

The treatment of the various forms of tuberculids is not always satisfactory. With rest and general treatment the same as for all forms of tuberculosis many of them, and especially the smaller forms, disappear. For the larger lesions like erythema induratum roentgen rays are very useful. Tuberculin, as a rule, does not give good results. Freezing with carbon dioxide snow should be tried in sarcoids. Arsenic internally is also worth a trial, and Stokes strongly recommends injections of arsphenamin in all forms of tuberculids, and especially in those cases in which no definite focus of tuberculosis is clinically demonstrable.

The author discusses the possible relationship of tuberculosis to several other diseases that have also been brought under suspicion. Among these are a type of purpura, erythema multiforme, erythema nodosum, lichen nitidus, granuloma anulare, lupus erythematosus, pityriasis rubra, (general exfoliative dermatitis), lupus pernio and angiorkeratoma. In these doubtful affections one should always remember the possibility of tuberculosis because, although the actual skin lesion may not itself be a tuberculous one, many of these eruptions are undoubtedly commoner in individuals who have a tendency for tuberculosis, both in its milder and more serious forms.

Elbert Clark, Chicago.


Milian states that in the few articles on this subject most authors do not attempt to differentiate the varieties of “arsenical erythema,” but speak of them en bloc. In reality there are numerous forms and a single pathogenesis cannot be attributed to all of them.

He thinks that there are two classes of postarsenical erythemas: first, the infectious erythemas, a coincidence of contagion or a lighting up of latent microbic infections, among which are scarlatiniform, morbilliform and polymorphous erythemas, etc., which occur most often in the beginning of treatment, about the ninth day, and which explain why a number of the authors blame the medication when it is simply and purely a matter of contagion. These infectious erythemas are the most common, and in general they disappear after three or four injections, a fact which dispels all idea of a toxic erythema.
The second group, the toxic erythemas, are more rare, and impress one as being due to arsenical intoxication, in that there are found not only erythematous rashes, but also cutaneous vasodilatation which borders on purpura, and intra-edema and hypodermic edema comparable to the cerebral edema of serous apoplexy.

He then describes the clinical characteristics of a case belonging to the second group.

SENEAR, Chicago.

THE FUNCTIONS OF THE CEREBROSPINAL FLUID; WITH A SPECIAL CONSIDERATION OF SPINAL DRAINAGE AND OF INTRASPINAL INJECTIONS OF ARSPHENAMIZED SERUM.

In an interesting article Dercum concludes: First, the cerebrospinal fluid is preeminently a fluid for the hydraulic suspension of the brain and cord; its function is essentially hydrostatic.

Second: Its chemical constitution is essentially that of the innocuous 0.75 per cent. common salt solution. It has no action on the tissues with which it comes in contact; it is absolutely neutral and negative.

Third: It is distributed through the ventricles and subarachnoid spaces. It has no relation to the perivascular, pericapillary or perineuronal spaces.

Fourth: It possesses no function of and plays no rôle in nutrition. The nutrition of the brain and cord takes place as does that of the other tissues—through its blood vessels, the perivascular spaces playing the same rôle as do the perivascular lymph spaces in the other organs and tissues. The old belief that the brain and cord have no lymphatic system must be abandoned.

Fifth: The cerebrospinal fluid has its source in the choroid plexuses and perhaps in the general serous surfaces of its containing cavities. It leaves the subarachnoid spaces of the cranium by passing through the arachnoidal villi into the venous current of the sinuses; also to a lesser extent by the lymph sheaths of the cranial nerves; from the spinal subarachnoid space it passes out by the lymph sheaths of the spinal nerves.

Sixth: Attempts at medication of the brain and cord through the subarachnoid space as in the Swift-Ellis method are unscientific, as substances introduced into the cerebrospinal fluid rapidly disappear by passing out through the arachnoidal villi and the lymph spaces, without in the slightest degree penetrating the nervous parenchyma. The beneficial effects hitherto ascribed to the Swift-Ellis and kindred methods are due entirely to the incidental spinal drainage.

Seventh: Medication of the nervous parenchyma must be attempted through the alimentary tract, through the skin, through the areolar tissue or directly through the blood.

Eighth: A remedy should be sought, the ions of which will readily osmose through the capillary walls.

Ninth: Spinal drainage is urgently indicated in tabes and paresis.

The writer further states that in his clinic they have abandoned the Swift-Ellis method. They have relied altogether on intravenous injections of arsphenamin and mercurial inunctions, together with spinal drainage, and their results have been better than previously, doubtless because special attention has been given to the drainage, all the spinal fluid possible being removed on each occasion. Finally, in a number of cases, they have practiced spinal drainage alone, and always with improvement.

OLIVER, Chicago.
NOTES ON AN EPIDEMIC OF ALOPECIA. W. J. Rutherford, Brit. J. Dermat. 32:4.

Rutherford, in addition to his ordinary military duties, took care of many of the civilians, returned prisoners of war and Belgian and French soldiers on leave in the Douai region, where the population had lived for four years in a state of intolerable servitude, and had suffered many hardships and much illness. He found many functional disorders, herpes zoster, neuralgias of various kinds, ulcers of the eye, and instances of thyroid intoxication, but a striking feature was the frequency with which complaint was made of copious falling of the hair, this occurring in 2.2 per cent. of the patients attended; a percentage out of all proportion to the incidence of such a condition in normal times.

Another strange fact was that the loss of hair did not occur at the time when it might have been expected, and during the continuance of miseries and alarms, but seemed to be of the nature of a reaction from the prolonged nervous strain and four years of semistarvation.

One case was seen in December, 1918, nineteen cases in January, 1919, five in February, and two in March before Rutherford was discharged from the service, so that the majority of these cases had appeared in less than two months after the armistice.

Two cases were definitely alopecia areata, and in two of the others there was seborrhea capitis. If these four are excluded there remains twenty-three cases, one only in a male, in which there was copious falling of the hair. The patients ranged in age from 8 to 52 years, the majority of them ranging between 15 and 22 years.

Rutherford considers the possibility of previous disease being responsible for the alopecia, but feels that in all these cases the prime cause was nervous strain combined with four years of impaired nutrition. Notes on the individual cases are added.

Senear, Chicago.


An active deposit of radium emanation was collected on sodium chlorid crystals from a Duane radium emanation apparatus. This salt was then converted into a physiologic sodium chlorid which was drawn into a 2 c.c. syringe and the radioactivity of the syringe determined with an electrometer before and after the injections. In this way the exact radioactivity of the injected solution was determined and controlled. It was found that sublethal as well as lethal doses, administered by either method, produced definite degenerative changes in all the organs, but most marked in the liver, kidney and spleen, while the vascular system as a whole was shown to be especially vulnerable.

Chronicity of the pathologic changes after small dosage was an outstanding feature. The gross histologic changes were those of congestion, hemorrhages, cloudy swelling, and acute fatty degeneration and giant cell formation, varying for different organs, but quite constant for the same organ under different experimental conditions. The cellular changes were those of cytoplasmic and nucleoplasmic degeneration without apparent predilection for nuclear changes except as secondarily induced by alteration in cell nutrition.
ABSTRACTS FROM CURRENT LITERATURE

The intravenous and subcutaneous methods differed chiefly in the marked pulmonary changes following the former technic. These results, which were attributed chiefly to alpha radiation, were similar to those obtained by other investigators from the gamma radiation from the external application of a radium plaque, and to the mixed rays obtained by the injection of radium bromid itself.

H. R. Foerster, Milwaukee.


Weinberg and Françon describe a case of gaseous gangrene developing in a patient suffering with typhoid fever, the condition appearing on the eighteenth day of the disease. Without any intestinal complications the patient's temperature fell to 38 degrees, and on the next day two plaques of gangrene developed, one on each buttock. The process was arrested by serotherapy, but the patient died three days later. The Eberth bacillus had been isolated by blood culture, and the Bacillus perfringens was found in the gangrene lesions.

Only two other cases of like nature could be found recorded, and in these, as well as in the present case, the gangrene developed at the site of therapeutic injections previously made. The authors do not think it possible that the gangrene could be due to introduction of the organisms at the time of injection since they took the usual antiseptic precautions, and the solutions used were found to be perfectly sterile. They feel that the injections simply determined the sites of lowered resistance to be attacked by the anaerobes carried by the blood.

Senear, Chicago.


In some conditions, notably cancer of the face, radium may be regarded as the treatment of election, as it may be relied on to bring about a complete and permanent cure in a large proportion of cases, without leaving the disfiguring and contracted scars which so often result from surgery and which so frequently are the sites of the recurrence of the trouble. In advanced deep cancers, which are hopeless from the point of view of surgery, radium has shown itself to be invaluable, and there now appears to be no doubt that it exerts a reliable influence on many forms of malignant growth. Radium is also recommended for benign tumor growths, such as moles, warts, papillomas and angiomas. It is also of value in keloid, lupus erythematosus, tuberculosis of the skin and leukoplakia. It is asserted that in cancer of the lip, both in early and advanced cases, the results are equal or superior to those of surgery.

Levin, New York.


The author states that as a result of the war the variety of tinea commonly called dhobie or washerman's' itch (eczema marginatum) has become very prevalent in England.
By combining chrysophanic acid ointment and radiotherapy, he has in over
90 per cent. of his cases obtained a cure in one treatment. In a few cases a
second treatment was given.

The ointment is composed of chrysophanic acid, 30 grains to 1 ounce
of lanolin. If a gas tube is used, it should have a penetration of 8 by Wehnelt’s
radiometer. With a Coolidge tube the battery should be 4 amperes, and the
primary current should give a reading of from 8 to 10 milliamperes.

A thin layer of chrysophanic acid ointment is spread over and a little beyond
the affected part; the tube is brought over the center of the part to be treated
from 8 to 10 inches away from the skin surface, and an exposure of five
minutes given. After the treatment is finished the ointment is wiped off the
skin, to prevent staining of the clothes.

The author states that roentgen rays alone will not cure the affection, and
while chrysophanic acid will do so in time, it is disagreeable and stains the
clothing.

Oliver, Chicago.

THREE CASES OF LICHEN PLANUS IN CHILDREN. H. G. ADAMSON,

Adamson found only four cases of lichen planus in young children described
in the literature—Kaposi’s in a child aged 8 months, Hallopeau’s two cases in
children of 12 months and 12 years, respectively, and MacLeod’s in a girl
aged 8 years.

He adds details of three cases from his own practice, in patients aged
3½ years, 8 years, and 2 years, respectively. There had been no previous ill
health in any of the children, and none during the eruption.

The author calls attention to the fact that these cases in children disturb
the generally accepted opinion that nerve exhaustion from worry and over-
work is a strong etiologic factor in lichen planus.

Senear, Chicago.

THE DIAGNOSIS OF PRIMARY SYPHILIS BY CULTURE. FRED W.

Baeslack and Keane describe an additional laboratory method for the diag-
nosis of certain primary syphilitic lesions. The occasion for the employment
of this method arises from the fact that the physician engaged in extensive
venereal practice is at times confronted by patients presenting a lesion of
the foreskin or penis which, on account of previous medication, such as the
use of calomel ointment, calomel dusting powder, burning with acids or other
escharotics, or the use of antiseptics, no longer presents the typical appear-
ance of a chancre. An attempt to make a diagnosis by means of the dark
field usually fails.

The method consists in inoculating small pieces of tissue from the sus-
ppected lesion on a special medium. This is so complicated that for its descrip-
tion reference must be made to the original article.

The inoculated tubes are incultated at 37 C. from three to five days, when
a few drops of the medium near the tissue are removed with a pipet to a
slide for dark-field examination.

Tissues from such doubtful cases have been planted as late as twenty-four
hours after removal. These tissues had been kept, wrapped in gauze, in the
icebox for that length of time, and yielded positive cultures, when repeated
dark-field examination of the scrapings of the fresh tissue itself were negative.

Clark, Chicago.
The authors set forth the experience of their clinic in the treatment of syphilis by the intravenous injection of a relatively new drug. This drug consists of salvarsan (arsphenamin) and silver in chemical combination in the form of a sodium salt. This chemical substance was first made by Kolle, who, for some years, has endeavored to obtain a substance which would be less toxic and at the same time exert a more pronounced therapeutic effect on syphilitic patients. In a similar manner salvarsan has been made to combine with other metals for therapeutic purposes—notably platinum, gold and copper.

The silversalvarsan product contains only two-thirds as much arsenic as salvarsan and is two to three times as effective therapeutically as the latter. It is not only less toxic but also is given in smaller doses than salvarsan.

"According to Kolle, 0.25 gm. silversalvarsan equals 0.4 gm. salvarsan."

The authors cite the experience of twenty-one other authors with silversalvarsan. The great majority of their reports are favorable to the new drug. Secondary reactions following injections of silversalvarsan were, however, frequently reported. These reactions consisted of rise in temperature, various vasomotor reactions and exanthemas. One death from pneumonia was recorded.

After treating ninety-two cases of varied syphilis over a period of fourteen months, the authors are much impressed with silversalvarsan as a specific drug for syphilis. They much prefer it to salvarsan, neosalvarsan (neo-arsphenamin) or either of these in combination with mercury. They conclude that in all types of syphilis silversalvarsan exerts a rapid beneficial effect—a much more rapid effect than with any other method employing neosalvarsan. This desirable effect is produced by fewer and smaller doses. A comfortable feature is that one works with a dosage well under the toxic quantity, as silversalvarsan contains only two-thirds the arsenic found in salvarsan.

The new substance is in general well tolerated and no untoward effects have so far been noted.

Elbert Clark, Chicago.

EARLY MANIFESTATIONS OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM IN COMBATANTS. Prof. G. Pighini, Riforma med. 48:1050 (Nov. 29) 1919.

The author reminds us that civilization and the strain of modern life may be the reasons for the increased number of cases of syphilis of the nervous system observed during the last few years, although our greater efficiency in diagnostic methods and the recent laboratory discoveries have done a great deal to enable us to recognize cases of nervous syphilis that would not have been so diagnosed a few years ago. During the last war, the author had the opportunity to observe numerous cases of nervous diseases at the Italian front. He believes that violent emotions and injuries of the skull and the dorsal column, creating a locus minoris resistentiae may be the indirect cause of the appearance of serious nervous disorders, primarily due to syphilis. Most of his patients were young men of the last military class who had been in the trenches or had suffered from wounds in the head or the spinal cord;
they had a history of syphilis and insufficient treatment. Pighini reports several cases, among them one of a gumma of the brain developed after an injury of the skull by high explosive; other reports concern cases of meningitis, myelitis, general paralysis, and tabes developing rapidly in soldiers who were in active military duty.

The author concludes from his observations that the nervous manifestations of syphilis were more frequent and of greater gravity during the war, among the fighting men, than in time of peace and in the civilian population.

V. Pardo-Castello, Havana.

GERODERMIE INFANTILE. A. Souques, Bull. et mém. Soc. méd. d. hôp. de Par. 35:1074 (Dec. 18) 1919.

Souques recalls the case described in the last number of the Bulletin by Variot and Calliau under the title of peau ridée sénile, and states that in 1891 he had published with J. B. Charcot, a similar anomaly of the skin to which they gave the name geromorphisme cutané, but which he now feels might better be called gerodermie infantile.

The patient's skin, which was flaccid, wrinkled, folded and mobile over the deeper parts, had lost its consistency and elasticity, and could be folded on itself at will in places, as in the cadaver's skin. The secretions and pilosebaceous system of the skin were normal. There were no motor, reflex, trophic or vasomotor disturbances, and sensations was unchanged.

SENAR, Chicago.


The author reports a case of accidental vaccination of the eyelids in a patient aged 31, who had not had a previous successful vaccination. An extensive bibliography is given. The present is reckoned as the ninety-third case of ocular change following vaccination. A majority of the cases have been mild and the eye changes have "not always had a direct relation to the patients' previous history of successful or unsuccessful vaccination. Clarke reports four members of a family who slept in the same bed, after a recently vaccinated child, and all but one developed vaccinia. In Schapringler's case, a physician patted the face of his patient, who later developed ocular vaccinia.

The author's case was that of a young mother who, after dressing a vaccination wound on the arm of her son, scratched the eye before washing her hands. Four days later the first lesion appeared. Both eyes became affected, the right cornea perforated and the temperature reached 102 F. The diagnosis was made by the history and typical vesicles that secondarily involved the eyebrow and left lids and by negative bacterial and blood findings.

ELBERT CLARK, Chicago.


The author reports four cases of gummatous osteitis of the skull with entirely satisfactory results. Local surgical treatment of gummatous osteitis depends on the size of the gumma and on whether or not the skin has been
broken. In very small gummas, it is unwise to open the fluctuating areas; if the gumma is 1 cm. in diameter or larger, it should be opened, the sequestrum removed, and the roughened edges curetted. In the larger exposed necrotic suppurating areas all necrotic bone should be removed, the skin edges freshened, and wet dressings applied. Specific treatment should be given in conjunction with local treatment.

Levin, New York.

SYPHILITIC NEURORETINITIS. HARRY V. WÜRDEMAN, AM. J. OPHTH. 3:1 (Jan.) 1920.

Neuroretinitis syphilitica, a specific inflammation of the optic nerve and contiguous retina, frequently associated with a papilledema, is caused by the local action of the toxins of the spirochete in the optic nerve and calls for energetic antisyphilitic treatment with arsphenamin and mercury. The author was unable to substantiate, either by clinical or experimental investigation, the imputation that the therapeutic administration of arsphenamin resulted in optic neuritis, atrophy or blindness. On the contrary, he has shown that syphilitic inflammation of the retina or optic nerve is invariably quickly ameliorated and promptly cured by proper arsenical and mercurial medication. In cases associated with choked disk, besides massive doses of arsphenamin, active diaphoresis with pilocarpin, purging with alkalies, and the use of hot packs is indicated. The writer emphasized the importance of the ophthalmoscope in the diagnosis of latent syphilis, stating that by this means alone previously unrecognized cases of nonsymptomatic syphilis are occasionally discovered.

H. R. Foerster, Milwaukee.

SUBLIMED SULPHUR IN MERCURIALISM. G. IRVING, BRIT. M. J. 1:149 (Jan. 31) 1920.

Mercuralism is caused by the accumulative action of mercurial salts. The exact mechanism is not definitely known, though two theories have been advanced—one by Almkvist and one by Gaucher.

Gaucher's explanation was that mercury on absorption into the system becomes converted into a chloralbuninateperoxide of sodium and mercury. It is an irritating salt and is not allowed to circulate freely, thereby causing stomatitis and other symptoms of irritation. He recommends that sulphurous waters should be drunk. He further states that the irritating mercury salt in this way is converted into a nonirritating mercury sulphid which circulates freely, is easily excreted, and is well tolerated.

The author is in charge of a number of syphilitic cases at Barian Camp, India. As there are no natural sulphurous waters available, he put all the patients being treated for syphilis by intramuscular injections of mercury on one teaspoonful of sublimed sulphur (nightly) by mouth.

He reports that from the very beginning his results were astounding. Not only was mercurialism prevented, but patients actually suffering from the condition improved rapidly.

This treatment has now been in progress for nine months, and in no case has mercurial treatment had to be suspended on account of mercurialism.

Oliver, Chicago.

Calcereous tumors of the skin have been classified by Darier and Brocq as follows: (1) calcereous tumors of the aged—calcified fat lobules, (2) true osteomas of the skin, (3) calcified varicose veins, and (4) subcutaneous calcereous granulomas (stones of the skin). The authors report a case of the latter variety in a girl, aged 16, who had calcereous deposits under the skin of the palmar surface of the right thumb and third finger. These small tumors had appeared one year before and had been slowly growing. Similar tumors were present on the fingers of the left hand, on the sole of the left foot and on the right knee. Over some of them the skin had ulcerated and the openings allowed a direct examination of the tumors, which were white, hard and of calcereous appearance. On pressure there exudated a sort of cretaceous material, granular and milk-white. Roentgen-ray examinations showed true deposits of lime salts in all affected points, which chemical analysis proved to be calcium phosphates and carbonates. The histologic sections showed a central nucleus formed of giant cells, nuclei, and connective tissue cells and fibers in active proliferation; there were numerous new-formed capillaries. Around this central mass the calcium salts had accumulated.

Cases similar to the one reported by the authors had been described by Thibierge and Weissenbach in connection with scleroderma. The etiology is unknown; perhaps it has a parasitic origin.

PARDO-CASTELLO, Havana.


Bonorino and Carulla report the case of a man, aged 39, a hard drinker, who developed cirrhosis of the liver with acute onset and rapid ascites. The milky character of the ascitic fluid, together with the fact that the duodenal contents seemed to be normal, suggested the syphilitic character of the condition. There were also evidences of inherited syphilis. The symptoms promptly subsided under specific treatment, as they had done in a second case with a similar history, of alcoholism and hereditary syphilis. The authors explain these cases on the theory that alcoholism reduces the resisting power of the liver and allows latent syphilis there to become active. They emphasize the importance of a trial of specific treatment in all cases of atrophic cirrhosis of the liver. It often fails, but in many cases results in practical cure.

PUSEY, Chicago.


A man, aged 19, was sent to the hospital with a case of erythema nodosum. Although Meakins calls the condition "erythema nodosum (?)" the clinical description is clearly one of that condition. In the course of a month he developed epidemic cerebrospinal meningitis, from which he ultimately recovered.

SENEAR, Chicago.

Ribbert believes the hereditary factors of all diseases to be qualities common to mankind in general, and that these qualities are transmitted from one generation to another in the same way as normal qualities. Mankind, we must imagine, was not originally perfectly healthy, but from the beginning was more or less affected by countless anomalies, which, with certain interruptions or skips, manifest themselves in successive generations. A tumor cannot be produced experimentally unless a predisposition for tumors exists. For the exciting cause of tumor growth to produce a tumor, the predisposition must exist. That cancer is hereditary in certain cases can hardly be denied in the face of accumulated evidence. If it is hereditary in some cases, it is probably in all. External irritants sometimes play a rôle in the production of cancer, as is seen in pitch, paraffin and arsenic cancer. This type of cancer suggests that carcinogenetic deviations in various epitheliums are much more widespread than is commonly supposed, and that by far the majority of them never develop into cancer. On the other hand, many of these deviations develop into cancer spontaneously.

Pusey, Chicago.


Bory believes that nervous and toxic disorders which have been considered as etiologic factors in psoriasis, can no longer be seriously considered as such. The infectious origin of psoriasis remains as the only possible explanation for this stubborn disease. He has made numerous experiments, cultures of the scales and blood and complement fixation tests with the sera of psoriatic patients. The experimental inoculations have always failed, but he has constantly obtained positive complement fixation tests with an antigen made of oospora cultures, although he confesses that other sera have given the same results. Bory reports a case with a suggestive history of cutaneous infection which proved to be psoriasis.

The conclusions drawn by the author are: 1. Insects may be the carriers of the still unknown germ of psoriasis. 2. Bacteriologic examinations from cases of psoriasis stained with polychrome methylene blue have constantly shown small, irregular rod-like germs resembling mycelia and very much in appearance like the threads of Mycosporum minutissimum.

Pardo-Castello, Havana.


Employing their own technic, the sera from 1,113 patients were examined. Five hundred of these were definitely syphilitic, 500 were not syphilitic and 113 were classed as doubtful. It was shown that simple alcoholic heart extracts gave the most reliable Wassermann reactions, provided the first phase of the reaction is carried out at from 7 to 10 C. A period of from four to six hours at this temperature gave the best results. Longer periods (from twelve to eighteen hours) may give doubtful or weak positive reactions. It was found that human heart extracts were more dependable than beef or guinea-pig heart preparations. Cholesterinized antigens, even when used in small quantities, will give false positive reactions in a considerable number of cases.

Levin, New York.
Society Transactions

CHICAGO DERMATOLOGICAL SOCIETY

Annual Meeting, Jan. 21, 1920

David Lieberthal, M.D., Chairman

HANSEN'S DISEASE. Presented by Drs. A. W. Stillians and F. E. Senear, Chicago.

A Serbian, aged 33, entered the hospital Nov. 20, 1919, complaining of a general nodular eruption, ulcers on the legs, edema of the feet, loss of weight and numbness of feet and hands. The disorder began two years before with nodules on the left leg; following this the nodules appeared on the other leg, on the arms, head and neck and six months ago they appeared in the mouth. The numbness in the hands and feet had been present for a year.

The patient had improved markedly under treatment with chaulmoogra oil, 15 minutes three times a day.

DISCUSSION

Dr. T. C. Gilchrist, Baltimore, said he had seen two similar cases which were typical, but no bacilli were found. He was not willing to accept the diagnosis of Hansen's disease without the presence of the bacilli. One patient seen by him cleared up under arsenic but later relapsed with extensive leukemia and died. In the other case, which appeared later, there was the typical picture of Hansen's disease, except for the absence of bacilli. There was very marked thickening of the median nerve in this case. In his opinion the profession should be very careful not to diagnose on sight but only on finding the bacilli, on account of the public view of this disease. He thought the idea of its contagiousness had existed ever since Biblical times.

Dr. W. A. Quinn, Chicago, stated that the organism had been found in the case shown by Dr. Oliver at the time it was presented at Dr. Ormsby's clinic at Rush Medical College, Oct. 31, 1919. The patient had previously received eight arsphenamin injections with no improvement, but now had improved somewhat on chaulmoogra oil which he had been receiving since that date.

Dr. M. F. Engman, St. Louis, said they occasionally saw patients with this disease in St. Louis and did not know what to do with them. They were usually sent to the Local Lepers' Home, which was a horrible place with several mutilated patients. He saw a case last summer and thought of sending it to Surgeon-General Blue. A bill had been passed for a National Home for these patients but the Surgeon-General had stated that the government had been unable to find a site for such a home. In every place that was selected the people would not permit it. They now intended to provide a home in an island off the coast of Florida.

Dr. E. L. McEwen, Chicago, thought the attitude of the public toward this disease had improved greatly in Chicago during the past decade. Several
patients had been admitted to the County Hospital in recent years and in each instance no opposition to their presence had resulted. He thought the profession should congratulate itself that the public was taking a saner view of this disease; but the great duty of continuing the education of the people to this better attitude was still to be remembered.

Dr. C. D. Freeman, St. Paul, said that the statement had been made by Dr. Joseph that if a patient with Hansen's disease were put on potassium iodid he would become ill. He did this with one patient and he became sick for several days, with a rise in temperature. The potassium iodid seemed to set the bacillus free and Dr. Joseph said it was much easier to find the bacilli after giving this drug.

Dr. M. Haase, Memphis, Tenn., said the situation in his section was not the same as in Chicago, as a recent experience with a case had shown.

PSORIASIS, SEBORRHEIC DERMATITIS AND PITYRIASIS ROSEA. Presented by Drs. W. A. Pusey and F. E. Senear, Chicago.

A man, aged 31, who had had psoriasis for the past four years, was first seen twelve days before, when he also exhibited an eruption which was especially well marked in the sternal and interscapular region, which had the clinical appearance of seborrhoeic dermatitis. At the time of presentation he showed pityriasis rosea, the herald patch being on the extensor surface of the right elbow.

BLASTOMYCOSIS. Presented by Drs. A. W. Stillians and F. E. Senear, Chicago.

A man, aged 40, Polish, eight months before had a small ulcerated lesion below the left eye; soon other patches appeared on the face, neck and hands. The lesions had grown constantly, with no tendency to healing. Subjectively there was slight burning and itching.

Blood examination showed white corpuscles, 9,650; 4 per cent. eosinophils; red cells, normal. Examination of the pus from the minute pustules showed many budding blastomyces.

Dr. T. C. Gilchrist, Baltimore, thought the patient had the typical smell of blastomycosis. The first patient reported in Baltimore had returned recently with new lesions, although the lesions had been all cleared up.

CARCINOMA SUGGESTING BLASTOMYCOSIS. Presented by Drs. Mitchell and Finnerud.

A man, aged 50, who came to America eighteen years ago, developed lesions in the left popliteal space shortly after arrival in America. He had burned his leg in this region about thirty years before. The lesion gradually enlarged and about two years ago was excised. In order to facilitate healing, extensive skin grafting was done. The lesion healed and recurred about the margin of the scar. Blastomyces had not been found.

The lesion was a fungoid mass about 6 inches in diameter. The tissue was soft and spongy. The odor was foul and the border was sloping as in blastomycosis. No epidermic vesicle was to be seen.

DISCUSSION

Dr. W. A. Pusey, Chicago, asked how frequently blastomycosis was seen in other places.

Dr. J. Butler, Minneapolis, stated that he had seen four cases in Minneapolis in the last few years.
Dr. T. C. Gilchrist, Baltimore, said he had seen ten cases in twenty-five years.

Dr. M. F. Engman, St. Louis, said he had seen fifteen cases in fifteen years, but he thought the disease was much more common than it was ten years ago.

Dr. M. Haase, Memphis, Tenn., stated that he had seen fifteen cases in the past eight or nine years. In the past twelve months he had seen five cases, the lesions being located on the eyelid.

Dr. E. L. McEwen, Chicago, asked whether the organisms had been demonstrated.

Dr. J. Grindon, St. Louis, thought very likely it was a carcinoma since organisms had not been found.

Dr. M. F. Engman, St. Louis, considered the yeast a secondary affair; budding organisms were found frequently in carcinoma. Carcinomas frequently occurred in scars after a burn, particularly around the knee where there was considerable friction. It was the rule for carcinomas to occur after ten years and this to him had the appearance of a carcinoma.

Dr. W. A. Pusey, Chicago, was interested in the way such things were seen. In Chicago blastomycosis was seen all the time. He had three cases in private practice at the present time; he did not know how many he had had but enough not to have counted them. Drs. Hyde and Ormsby had probably three times as many and everybody else had many cases. He thought more cases were seen in Chicago than anywhere else, but did not know the reason. The patients came from all sorts and classes of men. They also used to see some cases of sporotrichosis, but this condition was not so prevalent at present. Two or three years ago a great deal of pellagra had been seen, but there were not many cases at present. These diseases seem to run in cycles. Why?

Dr. Mitchell said the patient had presented himself at the clinic the week before and had been asked to return. There were no epidermic vesicles at present. The man had been operated on, an extensive excision was made and skin flaps brought down to heal, but the growth recurred in the margin. It seemed to him that the long duration, the recurrence, the fact that there was no greater destruction of tissue, the soft, sharply sloping border, were strongly suggestive of blastomycosis. The fact that it had recently been cured and treated with some caustic and that it was heavily crusted when the patient came in made examination difficult. He would make a biopsy and report the result at a later meeting.

ERYTHEMA INDURATUM OF LEGS WITH TUBERCULIDS OF FINGERS. Presented by Dr. D. Lieberthal, Chicago.

The patient, in whom the condition first appeared about seven years ago, was 26 years old. She had been presented before this Society previously.

DISCUSSION

Dr. W. H. Mook, St. Louis, thought the lesions on the fingers were erythema pernio. They resembled a papular tuberculid, but they disappeared in warm weather and returned in cold weather. The lesions on the leg were undoubtedly Bazin's disease.

Dr. T. C. Gilchrist, Baltimore, said the lesions on the right leg looked like a broken-down gumma. That would not explain the lesions on the fingers or on the other leg, but he thought this diagnosis should be excluded before making any other.
Dr. W. A. Pusey, Chicago, thought there was no doubt of its being a case of Bazin's disease, and even if the patient had syphilis, antisyphilitic treatment would not cure these lesions.

Dr. J. Grindon, St. Louis, thought it was Bazin's disease because subcutaneous induration could be traced all around, over a space two or three times the size of the ulcer.

Dr. M. F. Engman, St. Louis, said that their clinic was close to some of the shoe factories and they had a number of girls with Bazin's disease who stood up or did work on a machine. It seemed to him that this case was typical of Bazin's disease.

Dr. D. Lieberthal, Chicago, said the case had been under observation for two years, and neither the history nor repeated general and blood examinations had disclosed syphilis. The lesions on the legs had broken down for the first time this winter. The symptoms were considerably more pronounced in the cold weather than in the summer. The point made by Dr. Mook was quite apropos; one might sometimes confuse tuberculids with pernio, but he had never seen a case of pernio begin as this did. The lesions appeared as perfectly circumscribed, yellowish, glistening firm nodules, which gradually broke down in the center. The fact that the condition was worse in the winter was explained on the ground that cold weather increased the circulatory stasis and, therefore, did not favor recession. The development of a tuberculid took place on a similar basis of circulatory derangement as that of a chilblain.

A CASE FOR DIAGNOSIS. Presented by Drs. O. S. Ormsby and Mitchell, Chicago.

A man, aged 44, had a lesion on the scalp. He was first seen, Sept. 10, 1918. At that time there were symmetrical, grouped vesicopapules on the forearm, flanks, buttocks, thighs and legs. There was also a palm-sized, thickened, erythematous and vesicated area on the right side of the scalp. The lesions were associated with marked itching. Provisional diagnosis was made of dermatitis herpetiformis.

The patient was seen in October, 1919, with a lesion in the scalp suggesting cutis verticis gyrata. The skin, however, was not movable as in that disorder and the sections showed an inflammatory process. The itching had resisted arsenic by mouth, arsphenamin intravenously and autoserum.

DISCUSSION

Dr. F. Cole, Detroit, found the case very interesting and thought it was cutis verticis gyrata. The first case of this disorder was reported by Jadassohn in his clinic. In that case the entire scalp was involved. The first patient was operated on by Kocher for exophthalmic goiter. Unfortunately the whole gland was removed and they subsequently had to feed the patient on thyroid extract. He thought the cases might be due to deficiency of internal secretion.

Dr. W. A. Pusey, Chicago, asked whether the inflammatory condition was not entirely different from cutis verticis gyrata. The picture on the body was not clear in his mind, but he thought two conditions were present, the lesions on the scalp being different from those on the body.

Dr. I. Grindon, St. Louis, said the picture of the scalp reminded him of the description given by Pollitzer of a case in which the epidermophyton was found. He did not suggest this as a diagnosis. The case was different from anything he had ever seen.
Dr. W. H. Mook, St. Louis, thought the condition on the body looked like dermatitis herpetiformis and that if the condition on the scalp had appeared on the back of the neck it would have been diagnosed as dermatitis papillaris capillitii.

Dr. O. S. Ormsby, Chicago, said the case was presented without a diagnosis as none had been made. The clinical appearance of the lesions in the scalp resembled, as Dr. Cole had said, the description given of cutis verticis gyrata. The histology was not that of dermatitis papillaris capillitii Kaposi discussed by Dr. Mook. The patient had an intense general pruritus, including the scalp. He had seen no lesions suggesting dermatitis herpetiformis, though these were earlier described in this patient.

Dr. Mitchell stated that he first saw the patient in 1918 and at that time the lesion on the scalp was eczematoid and weeping. When first seen the eruption was somewhat vesicular, and he put down a tentative diagnosis of dermatitis herpetiformis. Recently the lesion on the scalp had changed markedly and when the hair was cut short the folds appeared more pronounced than at present. Cutis verticis gyrata is quite different, as he remembered it. In that condition the skin is quite loose and there is no inflammatory process as in this case, so he thought there was only a very superficial resemblance to that disorder.

LEPTOTHRIX. Presented by Dr. D. B. Phemister, Chicago. (By invitation.)

The patient was a man, aged 38. In October, 1917, a subcutaneous abscess developed one inch external to the left nipple. After three weeks it was opened and drained. The wound did not heal and in December, 1918, an adjoining abscess which had formed was opened and drained. It also failed to heal. The infectious process extended up into the left axilla and in February, 1919, a radical removal of the axillary glands took place. This wound did not heal but left a chronic ulcer with the disease spreading irregularly about its margins. During the spring and summer the process extended anteriorly from the apex of the axilla until it involved the infraclavicular region in front where subcutaneous abscesses were opened. In October, 1919, a subcutaneous abscess developed on the back and one on the inside of the left elbow. They were opened and yellowish pus, similar to that obtained from the ones above, was obtained. These wounds progressed more favorably. The patient had been in the hospital for two months and during that time the inflammatory process beneath the clavicle had extended and on two occasions abscesses had been opened. The entire axillary space was an open wound with a granulating wall, except in the regions about the anterior and posterior margins where fresh ulcers with flabby walls were present. Cultures had been taken from the wound and extensively studied, but no positive diagnosis was made. Dr. George F. Dick had made cultures from tissues and found the leptothrix organism. Histologic sections from different parts of the wound showed granulomatous tissue, round-cells, a few epithelioid cells and occasional giant cells. It was one of a few leptotheirx infections seen in the Presbyterian Hospital. This condition had occurred more often about the neck and mouth, making the same kind of abscess, that looked not unlike tuberculosis or actinomycosis. The infection had also been seen in the lungs and urinary tract. Guinea-pigs had been inoculated a month previously but had not died. The patient had been treated with potassium iodid, without response. The wound was being
irrigated with a mixture of 2 per cent. copper sulphate and calcium oxid (Bordeaux mixture), but so far there had been no special change.

(Later note.) Roentgen-ray treatment over a period of one month had been of no avail.

DISCUSSION

Dr. O. S. Ormsby, Chicago, remembered the time when sporotrichosis was rarely recognized and only a few lines devoted to its description in most textbooks. Later, when attention was directed to it many examples were reported, and now it is an important affection. Leptothrix infection is practically unknown as it affected the skin and subcutaneous tissues. Very few examples have been recorded. In the present case the abscesses were subcutaneous and proved resistant to all methods of treatment. He thought that if attention was called to the possibility of such an infection, similar cases might be studied and more efficient methods of treatment might be discovered.

Dr. T. C. Gilchrist, Baltimore, said that the first case that was shown at Johns Hopkins Hospital had been carefully examined, but they had never been able to find the organism in the skin by any method whatever.

MOLLUSCUM CONTAGIOSUM. Presented by Dr. J. F. Waugh, Chicago.

A child, 5 years, first had lesions on the left side of the chest fifteen months before. The largest lesion was almost the size of a dime before treatment. On account of the size and close grouping of the lesions, radiotherapy was given in divided dosage. Three treatments had been given, with a noticeable reduction in the size of the tumors.

DISCUSSION

Dr. W. A. Pusey, Chicago, said that a good many years ago one hardly ever saw a case of molluscum contagiosum, but now these cases were not uncommon. He saw a dozen or more in a year. He knew the disease before as well as he did now, but thought it was much more common. He asked whether the others had had similar experience.

Dr. U. J. Wile, Ann Arbor, Mich., thought that if Dr. Pusey would try to do some work on these cases he would find they were not so common. He had great difficulty in obtaining material in order to go on with his investigations.

Dr. H. G. Irvine, Minneapolis, did not remember seeing molluscum contagiosum in the last few years. The last case he had had was very interesting. An intelligent man went to a bath establishment and was given a salt rub and when he presented himself he had several hundred lesions. He had not seen a single case in the last three or four years, but prior to that time he saw them more frequently.

Dr. M. F. Engman, St. Louis, said that the cases had increased markedly with them in the last year. For two summers they had had epidemics of molluscum contagiosum from a certain swimming pool, and the disorder was widely disseminated. Whether it was acquired from the bathing suits or the water he did not know, but it was not uncommon in the summer time. They found it rather difficult to treat patients with several hundred lesions, but they had found a little knife very efficient for gently pricking the lesions and allowing the blood to flow into the cells of the lesions, which caused their disappearance within a few days. They simply let the blood run out and dry, no further treatment being necessary.

Dr. O. S. Ormsby, Chicago, thought Dr. Pusey was right about epidemics of this disorder; it had been seen much more frequently recently than in for-
mer years. He had seen a number of adult patients having large numbers of lesions. For ten or twelve years he had treated molluscum contagiosum by merely pricking the lesions with a needle and Dr. Wende had made a similar observation about the same time. He always treated them in this way and within ten days they would disappear. He used an ordinary curved needle, having two cutting edges. Many lesions could be treated at one sitting. In the last month he had seen four cases.

Dr. J. S. Eisenstaedt, Chicago, said that in the past summer he had seen only two patients with molluscum contagiosum, both of whom gave a history of using bath suits other than their own at bathing beaches. Some years ago he saw a woman of 60 who presented a single ulcerating lesion on the right hand. They thought it was a carcinoma and removed the growth surgically, but section proved it to be a molluscum contagiosum.

Dr. T. C. Gilchrist, Baltimore, said that this disorder was uncommon in Baltimore. The last case he saw was that of a doctor and was very severe. The patient had so many lesions that he was reminded of "the birth of a nation."

Dr. Mitchell was struck with the great frequency of warts on the hands and the great rarity of molluscum contagiosum in demobilization work. He had seen only three cases of the latter disorder which he could recall, but ordinary warts were seen every day, sometimes as many as from fifty to 200, on the hands.

CASE FOR DIAGNOSIS. Presented by Drs. O. S. Ormsby and Mitchell, Chicago.

A woman, aged 63, had had the disorder two years. It began as a lesion in the left forearm that did not itch. There was marked scaling. She was treated by Dr. Haase last year for three months, and had been treated for six months in Chicago at the International Health Resort, living on raw fruit and raw vegetables. She had lost about 40 pounds in weight on this diet. The leukocytes numbered 6,400. A nodule removed from beneath the right arm showed a cellular infiltrate.

DISCUSSION

Dr. M. Haase, Memphis, Tenn., said he saw the patient in March, 1919, when she was under observation for about three months. The condition at that time showed marked desquamation but not so many nodules as were now present. Otherwise there was very little change. He thought at that time it was a case of parapsoriasis, but after seeing the histologic section at this time he would no longer consider that diagnosis. After a casual glance at the section he thought it suggested leukemia cutis, but was not sure that this was the correct diagnosis.

Dr. U. J. Wile, Ann Arbor, Mich., agreed with Dr. Haase that the case belonged to the group of lymphadenoses. Clinically it seemed to resemble this group more than any other. He was somewhat disappointed, however, in the microscopic picture, which did not show cells of uniform type, but rather polymorphous infiltrates such as might be seen in granuloma fungoides. Clinically Dr. Wile thought the case resembled leukemia cutis in one of its many forms. Histologically, however, the picture was not typical of this group.

Dr. M. F. Engman, St. Louis, thought the case was one of great interest and very elusive; it would take time to analyze the symptoms. Leukemia cutis was elusive. It might start anywhere in the skin without desquamation and
without early involvement of the lymph glands. It might start as a nodular process. Using the method of exclusion, he did not know how to classify the condition unless he placed it with the leukemic group. There was no enlargement of the lymph glands and the histologic picture was not that exactly, but so many things might cause the polymorphous cells—such as the application of salves. The condition had existed for twenty-two months, which was unusual, and he thought there should be some lymph-gland or blood changes in that time.

Dr. T. C. Gilchrist, Baltimore, thought the condition was mycosis fungoides, as the picture under the microscope reminded him more of that disease than of leukemia cutis. He could not come to a definite conclusion without further study.

Dr. W. A. Pusey, Chicago, did not see on what basis a diagnosis of leukemia cutis was made, except that they did not know where else to place it. The leukemic condition was very indefinite. Leukemic exfoliative dermatitis was usually very pronounced exfoliative dermatitis, with the skin appreciably thickened and with infiltration of lymphocytes in the skin; but this condition was not present in this case. It was difficult to say that the patient had exfoliative dermatitis. Leukemic tumors in the skin, which were easily palpable, were very different from the tumors this woman had, and he thought the lesions on the skin did not provide a good reason for suspecting leukemia cutis. In addition to that, she had no other evidence of leukemia, no adenopathy, no enlargement of the spleen and no abnormality in the blood count. He could see no basis for the diagnosis of leukemia cutis except an effort to locate the condition somewhere. He offered a diagnosis of "carotanemia," based on the fact that the patient was living on raw vegetables and fruits, in some fake health resort. A patient who had had leukemia cutis for twenty-two months should have more symptoms than this woman presented, and if she lived on raw fruits and vegetables now she might have done so before.

Dr. F. Cole, Detroit, thought the histologic picture did not look like leukemia. He took the same standpoint that Dr. Gilchrist did, and believed it was a beginning mycosis fungoides or Hodgkin's disease. In some areas the cells seemed to be of the small mononuclear type and in others of the large mononuclear type. No Dorothy Reed cells were seen. He was rather inclined to call it a granuloma fungoides or what many are now inclined to term a Hodgkin's disease of the skin.

ATROPHY OF THE SKIN. Presented by Dr. A. W. Stillians, Chicago.

An American woman, aged 27, who had been married for eight years, six months before marriage noticed a thin spot in the skin of the right thigh and similar spots had appeared from time to time since, the last one appearing on the scapula a few months before presentation.

This patient was shown at the December meeting of the Society, and a full description of the case will be found with the proceedings of that meeting.

DISCUSSION

Dr. O. S. Ormsby, Chicago, said the most typical lesions were on the thighs, and while they resembled scleroderma, the primary lesions were atrophic. Some of the older lesions suggested the terminal stage of atrophic scleroderma. While it might be scleroderma, it seemed more likely that it was an unusual variety of atrophy of the skin.
Dr. J. Grindon, St. Louis, said the etiology of scleroderma was vague, although the relation to rheumatism had long ago been pointed out. That matter was borne in on him in the case of a patient from an Illinois town with a marked generalized scleroderma. The patient had had rheumatic pains and on investigation he found that she had had a number of attacks of tonsillitis with chronic hypertrophic changes in the tonsils. The tonsils were removed and she was put on sodium salicylate. Marked improvement took place. Certain hardened areas softened. He had had the teeth carefully examined and the accessory sinuses explored in the hope of finding some other food origin. He thought there was a very close relationship between the food infections that ordinarily gave rise to rheumatism and scleroderma, and believed that all foci of infection should be removed.

SARCOID. Presented by Dr. O. S. Ormsby, Chicago.

A woman, aged 24, had suffered with the disorder for six years. The lesions were situated on the arms, forearms, hands and fingers.

The same patient was presented at the annual meeting of the Society in January, 1919, and a brief description of the case may be found in the Journal of Cutaneous Diseases 37:626, 1919. Since that time no particular change had occurred in the lesions, notwithstanding the continuous internal administration of arsenic. The lesions on the face and hands had been improved by radiotherapy.

DISCUSSION

Dr. U. J. Wile, Ann Arbor, Mich., thought the case unique in presenting the true sarcoid on the face with definite tuberculosis cutis on the extremities. Of special interest was the condition of the bones, which showed a peculiar cystic degeneration. So far as he knew, most true sarcoid tumors had been localized on the face but a few tumors on other portions of the body were now recognized as such. He did not think the tuberculous nature of true sarcoid could be any better demonstrated than in cases like this in which it was coincident with tuberculosis in other parts of the body. He thought emphasis should be placed on the difference between sarcoid tuberculosis and other forms in that in the sarcoid type necrosis and ulceration did not take place. This was a distinguishing characteristic. This case was unique in the group of sarcoid.

Dr. S. E. Swettzer, Minneapolis, stated that he had had the privilege of studying two patients with sarcoid presenting lesions on the face and extremities. Both patients had subcutaneous sarcoid on the extremities, and he came to the conclusion, with several others, that all forms of sarcoid were tuberculosis of the skin. Since this patient was under Dr. Ormsby's care and he had stated that all cases of sarcoid disappeared under arsenic, he thought the patient should be treated in that way and the effect watched. He had given his last patient arsenic and also six or eight injections of arsphenamin, without any effect. He saw no reason why tuberculosis should be cured by arsenic and if these patients could be cured he would like to know of it.

Dr. F. Cole, Detroit, was much interested in the bone condition, and also in the ganglion on the wrist which was looked on as tuberculous. He thought the case was very interesting and had certainly been shown to be tuberculous in etiology.

Dr. T. C. Gilchrist, Baltimore, asked whether the tuberculosis had been demonstrated by inoculation experiments on guinea-pigs.
Dr. O. S. Ormsby, Chicago, said that he had made the statement concerning arsenic two or three years ago after the lesions of several patients had been cleared up by that treatment. At that meeting a patient had been shown by Dr. Harris, who had been administering small doses of arsenic but had given it up and said it was of no value. After Dr. Ormsby related his experiments Dr. Harris put the patient on large doses of arsenic and the disease cleared up. The patient shown at this time was first seen in January, 1919, and during the entire year had been under treatment with arsenic, with very little improvement. All the improvement she had made was due to radiotherapy. However, he had had four other patients who had cleared up under arsenical medication. At the last meeting he had shown a patient with similar lesions, limited to the face, who had not responded to arsenic, but improved slightly under arsphenamin. He thought in these cases the arsenic should not be given in the form of arsphenamin, but in some of the other forms, and that it should be administered over long periods. He could not answer Dr. Gilchrist’s question as he had done no work in that line. In his opinion the major portion of reported cases of sarcoid were tuberculous. A few appeared to have a syphilitic basis. Examination of the bones of the hands in the patient presented revealed cystic changes. In the opinion of the roentgenologist who made the skiagrohs, they resembled those sometimes seen in gout.

LUPUS ERYTHEMATOSUS. Presented by Drs. O. S. Ormsby and Mitchell.

A colored woman, aged 39, presented a disorder that had been present for seven years. The first lesions appeared on the nose near the corners of the eyes. Subsequently new lesions developed over the eyelids, on and behind the ears. There were circular and linear papular elevations about the nose and eyelids and some scarring. On and behind the ears much superficial scarring, without appreciable nodules, was present. In this situation lupus erythematosus was strongly suggested. There were no subjective symptoms.

The histologic section showed a distinct tuberculosis.

DISCUSSION

Dr. T. C. Gilchrist, Baltimore, thought it looked like lupus erythematosus. Some of the patches looked like lupus erythematosus and some like lupus vulgaris. He saw a patient several years ago with similar lesions and Dr. Stokes and he inoculated a guinea-pig. A section from the patient showed budding bodies and after inoculation they found similar bodies in the liver of the guinea-pig. The gland was excised and they found some of the budding bodies of calcareous deposits. The guinea-pig did not develop tuberculosis from the inoculation but six months later they took a section and in it found the tubercle bacillus and obtained a streptothrix. Lupus erythematosus was rare in the colored race, but lupus vulgaris was common.

Dr. S. E. Sweitzer, Minneapolis, agreed with Dr. Gilchrist that the condition looked like lupus erythematosus.

Dr. M. Haase, Memphis, Tenn., stated that he had seen only two cases of lupus vulgaris but as many as fifteen of lupus erythematosus in the negro.

Dr. H. G. Irvine, Minneapolis, thought it was lupus erythematosus. He was not accustomed to seeing lesions in the colored race and in that race could not tell one condition from another unless it was pointed out to him, and he thought that unless one was accustomed to seeing colored patients one
would hardly be able to differentiate lesions. He could not determine whether the lesions on the nose were the same as those above the jaw, but thought the latter were lesions of lupus erythematosus.

Dr. O. S. Ormsby, Chicago, said that in his experience the lesions of lupus erythematosus in colored people had usually been depigmented. He had asked Dr. Haase to give some distinguishing points about color in this disease in the colored race. He thought Dr. Gilchrist's diagnosis was correct. He had seen cases in white people which, clinically, resembled lupus erythematosus, but the histologic structure was that of tuberculosis, and he believed this case was of that type.

DERMATITIS REPENS. Presented by Dr. O. S. Ormsby and Mitchell.

This patient was first shown at the annual meeting in 1912, and was now presented to demonstrate the rebelliousness of this disorder to treatment (Jour-Cutan. Dis. 36:470, 1918). The disorder began in an infected area about the finger-nail and gradually spread over the finger and palm. New lesions developed on the other hand, running the same course. Similar patches had been present on either side of the neck and on the forearms.

Much bacteriologic work had been done, with negative results, and the disorder, while improved, had been resistant to all methods of treatment.

DISCUSSION

Dr. T. C. Gilchrist, Baltimore, asked whether there was any possibility that the patient kept up the trouble himself. He had seen this done in some instances and ringworm had been excluded. In such cases a strong solution of carbolic acid, 10 per cent., had been very effective.

Dr. W. A. Pusey, Chicago, thought that enormous improvement had occurred in this case, but that it had reached a state of chronicity where it would remain. He had had a similar case in a farmer, which he had presented before the Society ten or twelve years ago, and that followed the same course. He agreed with Dr. Ormsby that it was entirely different from ordinary conditions.

Dr. O. S. Ormsby, Chicago, said that some of the lesions had cleared up. He thought there was no possibility that the condition was factitious. The patient faithfully carried out all instructions and had been under constant supervision at the hospital for more than two years. The hands were kept bandaged and even under the strictest antiseptic dressings new pustules constantly developed.

He believed that dermatitis repens is a serious disorder, and that the cases reported as clearing up in two or three weeks, while resembling this disorder, were ordinary pus infections.

Dr. Mitchell stated that, in the absence of Dr. Ormsby, he saw the patient when he first arrived and at that time was particularly interested in searching for the ringworm fungus. He cut off a great number of vesicle tops and searched for hours, but did not find any fungi.

SWELLING OF NECK: BRANCHIAL CYST. Presented by Dr. E. L. McEwen, Chicago.

A laborer, aged 29, entered the hospital Jan. 12, 1920, with a swelling of the right side of the neck diagnosed as "syphilitic cervical adenitis." This swelling began as a painless enlargement in April, 1919, and had progressed
slowly with no discomfort; the patient sought medical advice because of the cosmetic appearance. There was no history of trauma; the patient had had gonorrhea in 1915 and again in 1917; in 1917 he had also had an ulcer on the penis which appeared seven days after exposure and lasted six months. He had received no antisyphilitic treatment, and had been without symptoms of syphilis except as suggested above. The Wassermann reaction was negative, and a physical examination showed no evidence of syphilis.

Dr. McEwen said the case was shown because the man had been referred to the County Hospital with a diagnosis of syphilitic cervical adenitis; he recognized the fact that it was not strictly a dermatologic case. The patient himself feared he might have acquired some form of tuberculosis from a woman with whom he had been friendly for a time. Dr. McEwen considered it a branchial cyst, although as such it was rather unusual in that it had not developed until approximately eight months before.

ULCER OF FOOT. Presented by Dr. E. L. McEwen, Chicago.

A colored man, aged 21, presented an ulcer on the dorsum of the left foot. The lesion began as a painful papule near the base of the smaller toes eleven years before. Extension of the lesion with thickening and verrucoid deformity of the skin occurred slowly and constant treatment was of no avail. October, 1919, radiotherapy was instituted, the foot being exposed every other day for seven exposures, a week's rest given, and then the treatments repeated in this way until twenty-one had been given. Later the scar tissue broke down and the resulting ulceration became very painful. The ulceration had continued slowly progressive; crossing the ulcer and in certain portions of the edges were found hard, elevated ridges. A portion of the ulcer floor was slightly fungating. A small verrucous remnant of the original lesion was present near the base of the fourth and fifth toes.

DISCUSSION

Dr. T. C. Gilchrist, Baltimore, thought it was a verrucous tuberculosis. The lesion at the base of the toes apparently had not been touched by the radiotherapy, and this disease sometimes assumed that form in the colored race. He would not care to offer a definite diagnosis without seeing a section.

Dr. M. F. Engman, St. Louis, thought it was impossible to tell what the condition was originally, but that it now looked like a carcinoma.

Dr. C. C. Dennie, Kansas City, Mo., thought it was a case of tuberculosis verrucosa cutis.

Dr. E. L. McEwen, Chicago, stated that the lesion began when the man was 11 years old. It had been treated intensively and over a long period with radiotherapy; this had been followed by breaking down of the scar and, as he believed, by the development of carcinoma in the cicatrix. He made this diagnosis on the basis of the fungating ulcerative conditions to be seen and the presence in and above the ulcer of hard elevated ridges.

EPIDERMOPHYTON INFECTION. Presented by Dr. J. Zeisler, Chicago.

A man, aged 56, presented an eruption covering a large area of the groin and inner aspect of the thighs, which had been present for six months. The patch was sharply margined, intensely red, and the skin of the scrotum was thickened. There were also eczematous patches around the elbows, ankles and buttocks. The patient had been seen by several other dermatologists who, he
thought, had made a diagnosis of tinea cruris and had found the epidermophyton.

**DISCUSSION**

Dr. Zeisler stated that the patient had lesions around the ankles and on the forearms which were eczematous. He thought the condition of the groin was an epidermophyton infection and that the other lesions were eczema.

Dr. F. E. Senear, Chicago, said that he had had the patient under observation for some time for Dr. Pusey. There was a history of long standing chronic eczema about the scrotum and perineal region and he suddenly developed an extensive eruption on the inner surfaces of the thighs and over the pubic region, also some lesions involving the elbow. The fungus was found at the first visit and after using Whitfield's ointment he returned with some improvement in the ringworm condition, but he then had a condition which they considered a dermatitis venenata on the arms and forearms. He examined the other lesions of the body, recalling Dr. White's paper in which he suggested the extensive lesions in connection with epidermophyton infection, but he did not find any fungus. Neither had this fungus been found recently in the regions about the thigh. He thought it was a mixed case—an epidermophyton infection of the crural region and an eczema of the arms and legs.

Dr. W. A. Pusey, Chicago, thought it was a common case of epidermophyton infection with an added eczematoid condition. He had tried to send the patient to the hospital so that he could rest and thought he was improving rapidly.

Dr. E. L. McEwen, Chicago, said he had seen the patient ten days before and at that time he was much worse than at present. He considered it at that time a more unusual case than those who had seen him today thought. He had regarded it as a case of parapsoriasis or possibly of the premycotic stage of mycosis fungoides; the man had suffered greatly from itching. The condition had not impressed him at that time as being one of parasitic dermatitis.

Dr. T. C. Gilchrist, Baltimore, had seen as extensive cases of tinea versicolor and had found the parasite. The persistence of the condition reminded him of a case seen several years ago in which the spores in the cells went down three or four deep; that explained why superficial treatment seemed to be of no avail. The parasite might be developing deep down in the cells in this case also.

**PHAGENEDIC ULCERS.** Presented by Dr. E. L. McEwen, Chicago.

A Serbian, aged 23, who presented ulcerations in the groins and between the buttocks, in May, 1919, had had a small ulcer on the glans penis, followed by swellings in both groins. These were incised and drained, but ulceration developed, spreading down the groins into the folds between the scrotum and thighs and around the anus; this was accompanied by marked edema of the penis and scrotum. The Wassermann reaction had repeatedly been negative. He had been treated by cauterization, curettage and permanganate dressings, without marked improvement. A mixture of iodoform in ether improved the condition somewhat.

**PHAGENEDIC ULCER.** Presented by Dr. E. L. McEwen, Chicago.

A colored man, aged 32, presented an ulceration in the groins and on the foreskin. The trouble began nine years ago as a small ulcer on the foreskin
SOCIETY TRANSACTIONS

and extended until most of the foreskin was involved; about a month later he developed swellings in his groins, which softened and were incised. A persistent discharge developed, and acuminate granulations appeared and gradually extended over the lower part of the abdomen. Continuous treatment had been of no avail and improvement was not in evidence until radiotherapy was instituted in November, 1919, an exposure being given every two weeks.

PHAGEDENIC ULCER. Presented by Dr. E. L. McEwen, Chicago.

A colored woman, aged 29, entered the hospital Nov. 15, 1919, with ulcerative lesions in the perineum. These began four years before with ulcers on the labia majora and minora which gradually increased in size and became wart-like, tender and painful. A diagnosis of syphilis was made and the patient received mercurial inunctions and seven intravenous injections of arsphenamin, with no apparent effect on the lesions. The Wassermann reaction was repeatedly negative. When shown the patient presented on the labia majora and minora, the inner surface of the thigh and glutea, ulcerated, indurated, discrete and confluent, raised, pinkish, verrucous growths which were tender to the touch and subjectively painful. Histologic section showed granulation tissue of markedly vascular type.

DISCUSSION

Dr. M. F. Engman, St. Louis, thought the case of the colored man represented a type of disease of which they saw many cases in colored people in St. Louis. One case had been under observation for many years in which they found the bacillus of Ducrey. He had not seen the so-called tropical ulcer, so knew nothing about that type, but in the cases of the ulcus mollis they had seen it was easy to demonstrate the Unna bacillus. The condition lasted for a number of years, extended peripherally and was difficult to cure. He had tried many methods of treatment and had found the continuous bath the most helpful.

Dr. J. S. Eisenstaedt, Chicago, agreed with Dr. Engman. He had had the opportunity of observing no less than ten or twelve such cases at Camp Taylor in colored and white soldiers. The lesions were very similar in both races. One or two of the men had been in the ward of the hospital, under various commanding officers, for periods of three and seven months without improvement. They cured the ulcers without much improvement and finally he put the men under anesthesia and used a Paquelin cauterity extensively, and they all healed. Some of the patients had been kept under treatment by Dakin's continual drop method, and in some dichloramin-T had been used with only slight improvement. The only method that gave good results was deep cauterization. In some recent literature it had been shown that the Unna-Ducrey bacillus might lie dormant for years in the glands and then break out, occasioning ulcers in the groin which took this appearance. He requested that Dr. McEwen have an inguinal gland removed and very carefully examined, and that he report the findings to the Society at a later date.

Dr. J. Grindon, St. Louis, thought there was some confusion attending these ulcers about the pudenda of both sexes. They used to be called esthiomene, which meant nothing in particular. There was a combination of several conditions, a large proportion of cases occurring on a syphilitic base. In some old syphilitic patients there occurred extensive infiltration about the vulva, the labia were edematous, and sometimes ulceration extended inside
the vagina. Often there was so much induration that it was difficult to investigate the inguinal condition. Again, there was the type spoken of by Dr. Engman. Those were, he believed, cases of old chronic chancroid. The infection might last for years. Most of the cases he had seen had occurred in negroes, but one patient was a Greek. In all there was a syphilitic basis. One case gave a negative Wassermann for a long time, but later gave a + + + reaction. When that patient was first seen Dr. Grindon had made a clinical diagnosis of epithelioma, and this diagnosis was concurred in by some of the genito-urinary men who saw him. The lesion extended up along Poupart's ligament on both sides, the penis was entirely destroyed and it was with difficulty that the meatus could be discovered. A pathologist returned a diagnosis of epithelioma. The patient went to the Skin and Cancer Hospital and there the Ducrey bacillus was demonstrated.

Another ulcerating condition was granuloma inguinale tropicum. He had reported three cases of that condition in negro males. A description of one would serve for all. The ulcer was entirely different from that due to the Ducrey bacillus. There was a well-marked ridge of vegetation and, splitting the center of this ridge, a crevice. The lesions followed Poupart's ligament, encircled the scrotum, sometimes followed the perineum and encircled the anus, or took in one side of it. Few cases had been observed in this country.

Dr. U. J. Wile, Ann Arbor, Mich., took exception to the diagnosis offered by Dr. Grindon for the white man. That patient had multiple ulcers in both groins and an anal fistula, and he thought it was a tuberculous condition.

Dr. W. A. Pusey, Chicago, placed his vote on the side of chancroid, having in mind particularly the negro woman. The history of all such patients which he had investigated was that of the condition called chancroid. They were dirty negroes who had a bubo and a phagedenic ulcer which extended all around the place affected. He had seen many cases and agreed with Dr. Grindon that a great deal of confusion existed. He had tried to separate this condition from granuloma inguinale tropicum but had not been able to make a clinical differentiation because he had not seen the latter disease. He had seen twenty cases similar to these at Camp Funston, and if granuloma tropicum was the condition it should be called "granuloma Illinoiscicum." He thought they were cases of Ducrey infection and was surprised to hear a diagnosis of tuberculosis offered.

By "phagedenic" he meant the ulcers that spread spontaneously and rapidly.

Dr. J. Grindon, St. Louis, agreed with Dr. Pusey, so far as the cases that he was talking about were concerned, but he was referring to the condition which he had spoken of in contrast to the condition which was the topic of the discussion. If Dr. Pusey would carefully read the description of Sir Patrick Manson he would see that it was entirely different from chancroids in dirty negroes.

Dr. W. A. Quinn, Chicago, said that the colored man was an old patient who had been on the service of the late Dr. Harris, who had made examinations and had excluded chancroid and syphilis, and who considered the case granuloma inguinale tropicum. He had not found the Ducrey bacillus. The patient had improved somewhat under radiotherapy.

Dr. T. C. Gilchrist, Baltimore, thought it was well known that different clinical appearances were often obtained from the same case and similar pathologic pictures from different cases. If the Ducrey bacillus could not be found or the spirochete, that settled it; if neither of these could be found
but other bacillus was found, that settled it. In these cases he thought the
demonstration of the tubercle bacillus could be made very easily.

Dr. M. F. Engman, St. Louis, thought it was very difficult to find the Unna-
Ducrey bacillus in these growths. They were often reported as epithelioma,
but there was no epithelioma about the condition. There was an infiltrating
border with a great deal of acanthosis, but one had to obtain the bacillus
far inside the border. The case of the negro man was typical of the cases
seen as Unna-Ducrey bacillus infection.

Dr. D. Lieberthal, Chicago, thought that the possibility of symbiotic action
should not be overlooked in searching for the bacillus. The Ducrey bacillus
found in the beginning might later have disappeared on the increased activity
of other micro-organisms. This point should be considered in the determination
of the etiology of these cases.

Dr. F. E. Seneal, Chicago, had seen the patients at the County Hospital
and thought the two men had an entirely different condition. The white man
had a chancroidal ulcer. In the colored man there was no undermining of the
border but an immense growth of granulation tissue on the base and islands
of tissue that had not been destroyed, or had been destroyed and followed by
growth of new epithelium. This was quite characteristic of granuloma inguinale
tropicum and he believed that the case was an example of this disease. The
case of the woman had been diagnosed as syphilis and she was given a long
course of arsphenamin, without affecting the condition. A biopsy was made
and showed nothing but granulation tissue with development of a large number
of newly formed blood vessels. He thought that while it was not what we
know as granuloma pyogenicum it was some type of growth occurring in the
woman as a result of vaginal discharge, which had produced a growth of
similar pathology. It was somewhat similar in appearance to the chancroidal
conditions seen about the vulva, but he did not think it was that disease.

Dr. McEwen stated that the colored man had been shown before the
Society before and that Dr. Harris had considered his condition to be granuloma
inguinale tropicum. There was some doubt as to whether the white man's
condition was identical, but the colored woman's condition was much the
same as that of the colored man. He believed the term "phagedenic" was
being used carelessly and that it should be accepted as a descriptive term
instead of as a name of a disease entity.

MULTIPLE IDIOPATHIC HEMORRHAGIC SARCOMA. Presented by
Dr. O. S. Ormsby, Chicago.

This patient was presented before the annual meeting of the Society in
1919 and a description of the case will be found in the Journal of Cutaneous
Diseases 37:538, 1919. Since that time numerous new lesions had developed.
The older ones had been reduced about 50 per cent. by means of radiotherapy.
The general health, notwithstanding the widespread distribution of the lesions,
was not interfered with. The histological sections were unusual. A full report
of this case will be made at a later date.

DISCUSSION

Dr. J. Grindon, St. Louis, mentioned Hardaway's case reported in 1883.
It was a typical example of this disease in which the patient, who was still
living, had made a complete recovery after ten years without any treatment
whatever. Koebner's patients and a few others recovered under arsenic
treatment.
Dr. J. Zeisler, Chicago, said the case was first seen by a man of considerable experience, who made a diagnosis of lichen planus. The patient was afterward seen by his father, who first made the diagnosis under which the case was presented. The eruption had improved somewhat while under their treatment with arsenic and roentgen rays.

Dr. T. C. Gilchrist, Baltimore, considered the lesions on the lower extremities so typical that no further discussion was necessary.

Dr. D. Lieberthal, Chicago, said that he had published a report of four cases of this disease—the first of these was one of the earliest recorded in this country. Koebner's assertion that arsenic cured that condition did not hold true. In none of Dr. Lieberthal's patients, who were under his observation until they died, did arsenic produce any beneficent result. Radiotherapy, however, promised good results.

Dr. Ormsby stated that in the study of patients with this condition various observers considered it an inflammatory disease and not sarcomatous. The present case differed from many others in the large number of definite nodular and tumor formations. One tumor near the axilla was as large as an egg. The swelling and boardy harshness of the hands and feet and legs was characteristic and its benign course also suggested Kaposi's type rather than a true sarcoma. Arsenic had proved of little value in this case, but many lesions had undergone resolution with treatment by radiotherapy. Massive dosage, with filtered rays from the Coolidge tube, had been employed.

**ITCHING ERUPTION, FOR DIAGNOSIS.** Presented by Dr. E. L. McEwen, Chicago.

A colored man, aged 28, presented an intensely itching skin disturbance which had been present for nine months. It began as a dry papular eruption in the left popliteal fossa and rapidly spread over the entire body. The skin showed much infiltration, and was torn with scratching. Both extensors and flexors were affected. Vesicles were to be seen at times. There was a history of a chancre three years before; no treatment; no secondaries; Wasserman reaction repeatedly negative. Examination of the blood at entrance showed 25,000 leukocytes, with 24 per cent. eosinophils. Histologic study showed thickening of the prickle cell layer, round cell infiltration of the upper cutis extending down along the vessels and moderate edema of the epidermis. There was no sharp differentiation between lichen planus and lichenification. When shown, nephritis was present, possibly due to the use of intravenous foreign protein vaccine.

**DISCUSSION**

Dr. M. Haase, Memphis, Tenn., asked how long the patient had been under Dr. McEwen's observation. He had recently seen a similar case in which he made a diagnosis of lichen planus. In that case there was marked improvement within a month. The patient, a negro, then left the hospital, had an exacerbation and returned in much worse condition than the patient who had been presented today. He thought it was a case of so-called generalized acute lichen planus.

Dr. M. F. Engman thought it was a case of generalized, papular, itching eruption, so frequently seen in the negro.

Dr. McEwen said the patient came to his service at the County Hospital in September and had remained several months. He had returned to
the medical service with a nephritis a short time after leaving the hospital; he was afterward transferred to Dr. Stillians' service. In October the man had shown many vesicles on the arms and, while the diagnosis of lichen planus had been made a number of times, Dr. McEwen had not thought it was that disease, but rather considered it a case of dermatitis herpetiformis.

A CASE FOR DIAGNOSIS. Presented by Dr. O'Leary for Dr. J. Stokes. Rochester, Minn.

Dr. O'Leary presented for Dr. Stokes a patient 56 years of age, with a history of exophthalmic goiter, with adenomas and myocardial degeneration. About a month before thyroidectomy he developed doughy, edematous, tawny plaques over the anterior tibial region and about the ankles. At the same time he noticed a thickening of the soft tissues of the fingers which did not reduce on pressure. At the time the patient was first seen by Dr. Stokes the lesions in the pretibial region strongly suggested an erythema nodosum. The erythema was much more marked than at present and the individual plaques distinctly more localized, but there was no tenderness on pressure. There was no evidence of obstruction of the venous return or of cardiac decompensation at the time. In view of the puzzling clinical picture a biopsy was taken. The pathologic picture showed nothing, only a marked connective tissue hyperplasia with some edema and conspicuous absence of every type of inflammatory or other infiltration. Special stains for myxomatous degeneration showed nothing distinctive. Subsequent determinations of the patient's metabolism had shown it to be within normal limits so that the condition could scarcely be interpreted as being due to hypothyroidism. The condition of the hands had changed very little since first observation but the erythema had disappeared from the lesions on the legs and the process at the time of his presentation was much more suggestive of a chronic stasis with edema than it was at the time he was first seen. The patient stated that a considerable reduction of the swelling occurred on elevation of the feet. The process was now much more suggestive of an early elephantiasis than it had been at the outset. No cause for the edema had been ascertained.

DISCUSSION

Dr. W. A. Pusey, Chicago, thought it was a case of lymphatic edema with hyperplastic changes and beginning elephantiasis, an acute lymphatic obstruction. He asked if too much thyroid had been removed. He thought the man showed no evidence of myxedema.

A CASE FOR DIAGNOSIS. Presented by Dr. O'Leary for Dr. Stokes. Rochester, Minn.

Dr. O'Leary presented for Dr. Stokes a patient who had been seen by the Society on three previous occasions, when she was a patient of the late Dr. Frederick G. Harris. For the past eight years she had had an almost continuous succession of dermatologic pictures varying from urticaria through erythema multiforme and dermatitis herpetiformis to eruptions which had been suspected by members of the Society as being conditions as widely separated as pemphigus and premycotic granuloma fungoides. Dr. Harris had exhausted on this patient every imaginable therapeutic resource. When this patient consulted Dr. Stokes it occurred to him to investigate the only two points to which Dr. Harris had apparently not given special attention up to
the time of his death. An investigation of the patient's alkali reserve showed her hydrogen-ion concentration to be one-half the normal. Three periapically infected teeth and septic tonsils were also identified. Intravenous injections of calcium chloride were instituted with a moderate but definite therapeutic improvement. As soon as the acute phase of the eruption had subsided the apically infected teeth were extracted. With the extraction of the third tooth, which was the most involved, the patient sustained a tremendous flare-up with giant urticarial wheals, many of them larger than the palm. The vesication, suggesting dermatitis herpetiformis, which had disappeared under the calcium therapy, reappeared with the most intense pruritus. The exacerbation subsided under a continuance of the calcium chloride therapy and the patient sustained a general improvement more marked than any observed in recent years. A tonsillectomy was then done and without a marked local reaction in the throat the patient again sustained a definite flare-up, less pronounced, however, than that following the dental extractions. An interesting feature of this flare-up was that certain papular lesions about the neck and shoulders which had been landmarks for some months showed a marked lightening up not unlike that of localized forms of recurrent urticaria. Since that time she had remained in good condition until an exacerbation within the last two weeks which occurred while the patient was at home and not under observation. Dr. Stokes invited the Society to make another attempt at a diagnosis. Whatever the role of the focal infections as predisposing causes might be, the progress of the case had certainly not established their right to consideration as the sole etiology. Since the patient had returned home she had been taking calcium lactate by mouth. During the period that the effect of increasing the alkali reserve and removing the focal infections had been under observation, no local measures had been used in order to avoid confusing the picture.

DISCUSSION

Dr. W. A. Pusey, Chicago, thought there was some itching eruption as a foundation but did not see any evidence of dermatitis herpetiformis as the basis. On top of the eruption there was a marked formation of connective tissue nodules. In places they were distinct keloids, not eruptions that suggested keloids but distinct growths. There were other lesions that were cicatrized and scar-like so that when definite keloids were seen they might be definitely accepted as keloids. There were other nodules in the process of formation which represented less complete keloids. The patient had a distinct tendency to the formation of connective tissue nodules under traumatism and he thought this condition shown to such an exaggerated extent was quite analogous to the case of hyperplasia on the back of the hand shown by Dr. Senear and himself. Dr. Gilchrist had suggested the diagnosis of prurigo nodularis and he thought this a good suggestion. It was a discrete eruption occurring chiefly on the lower extremities and characterized by these itching nodules which were excoriated. He thought the eruption was the same in both cases and was willing to accept it as a bizarre case of prurigo nodularis.

Dr. T. C. Gilchrist, Baltimore, thought the appearance of the lesions warranted this diagnosis and that the keloids were the result of secondary infection due to scratching. He did not think it formed part of the process in the skin lesions.

Dr. J. Grindon, St. Louis, agreed with Dr. Pusey that there were different kinds of lesions. There were papules and scratched lesions which might have been anything, and there were true keloids. Besides that, there were nodular
lesions which looked as if they were developing into keloids. His diagnosis was dermatitis herpetiformis plus the formation of keloids, the patient having that tendency so often seen in the colored and less often in the white race. His reasons for believing it dermatitis herpetiformis were: the perfect symmetry, the decided grouping, the preservation of the general health, the pruritus and the history. The statements of the mother and the patient were that the lesions on the neck came up and looked like "hives," and that "blisters" developed in a number of places. These lesions, they said, contained clear fluid, while others had "yellow heads."

Dr. W. A. Pusey, Chicago, said he was converted by Dr. Grindon as to dermatitis herpetiformis, and thought the history of the case should not be considered too significant. There was no evidence of grouping on either thigh or on the forearms. He thought the hive-like lesions were anaphylactic conditions.

Dr. W. F. Engman, St. Louis, had studied the case with much interest and had first thought of prurigo nodularis and then, because of the keloidal lesions appearing on the inner part of the thighs, had abandoned that diagnosis and was at sea until he went over the case with Dr. Grindon. He then questioned the girl and she distinctly described hives and some lesions like erythema multiforme. The girl was highly neurotic, the skin was sensitive and would probably itch more from ordinary lesions than some other skins. From the grouping, from the history and the character of the lesions she described he thought that was the only classification that could be made without histologic study and study of the blood. It was a peculiar condition of dermatitis herpetiformis which occurred in only a small percentage of these cases.

Dr. J. Grindon, St. Louis, thought that as Dr. Gilchrist had not noticed the grouping he perhaps did not have a clear mental picture of the case as a whole. On each side over the clavicle, in a perfectly symmetrical manner, there was a group 1½ inch in diameter sharply outlined. On the arms the lesions were freely distributed but there was a tendency toward symmetrical arrangement. On the thighs there were large masses on the two sides and there had been a single large group in the middle of the back.

ERYTHEMA NODOSUM SYPHILITICUM. Presented by Drs. A. W. Stillians and F. E. Senear, Chicago.

A colored man, aged 39, in 1900 had developed a lesion on his penis three weeks after exposure, which lasted for six weeks. One year ago he developed a right-sided facial paralysis which, although much improved, was still very evident. Two months ago he contracted another lesion on the penis fifteen days after exposure. This had been cauterized. A month ago he developed a sore throat, with intense headaches and pains in his limbs. One week later a number of hard painful nodules appeared on both legs. The Wassermann reaction was + + + +

DISCUSSION

Dr. E. L. McEwen, Chicago, thought there were two conditions to consider. Was the lesion on the penis a chancre and could the lesions on the limbs be diagnosed as erythema nodosum syphiliticum? In his opinion the penis lesion was a chancreiform gumma altered by treatment, and he saw no reason why the skin should not be designated as erythema nodosum syphiliticum, since that term was in use in the literature. He asked an expression from the other dermatologists as to whether this was a legitimate term.
Dr. W. A. Pusey, Chicago, said the lesions on the shin could not be called erythema nodosum syphiliticum, because erythema nodosum was a perfectly good entity. The history of the case sounded as if the patient had a chancre, had a little arsphenamin but not enough to do much good, and then had a premature tertiary syphilis. He appeared to have a third nerve paralysis and apparently some gummas of the skin, and he thought such gummas followed early cases of syphilis that were insufficiently treated with arsphenamin. In his opinion, a good disease like erythema nodosum should not be slandered.

Dr. T. C. Gilchrist, Baltimore, stated that he had had experience with many cases that for a long time presented all the features of erythema multiforme, which disappeared under syphilitic treatment. He had seen cases of urticaria due to syphilitic infection, as shown by the Wasserman test, and had also seen pityriasis rosea occur in a syphilitic patient, which assumed the characteristics of pityriasis rosea.

Dr. M. F. Engman, St. Louis, thought it depended on the use of terminology in nomenclature. Erythema nodosum was applied to the so-called tuberculous processes. Fundamentally, red nodes occurred from many organisms, but if the term was to mean a node due to the tubercle bacillus, it was all right; fundamentally and pathologically, he thought, the term might be used properly by applying the name of the organism with which it was associated.

Dr. D. Lieberthal, Chicago, did not see any objection to the term. It had been generally accepted by the dermatologists as well as by pathologists.

Dr. J. S. Eisenstaedt, Chicago, referring to erythema multiforme occurring in a syphilitic, said that he saw such a patient last fall with lesions in the mouth. He thought they might be on a syphilitic basis and continued the antisyphilitic treatment that the patient had previously received elsewhere. He grew worse, so the treatment was discontinued. On looking up the literature Dr. Eisenstaedt found that certain cases of erythema multiforme had been described after the exhibition of mercury. Evidently this case was one of erythema multiforme in a syphilitic which was made worse by mercurial treatment and had possibly been caused by mercury, as reported by Stelwagon.

Dr. E. P. Zeisler, Chicago, saw no reason why a patient with syphilis might not develop an urticaria, an erythema nodosum, or a pityriasis rosea. Because a person had syphilis, as evidenced by a positive Wassermann reaction, all the skin lesions need not be syphilitic, even if they disappeared under antisyphilitic treatment. He recalled the fact that many of the tuberculids disappeared under arsphenamin treatment and he would agree with Dr. Pusey in objecting to the term erythema nodosum syphiliticum.

Dr. W. A. Pusey, Chicago, emphasized the point made by Dr. Zeisler, that because a man had syphilis the skin lesions were not necessarily syphilitic. He did not believe it had ever been established that erythema multiforme or typical erythema nodosum were syphilitic. They might occur in a syphilitic patient, but he thought it was important not to give the impression that pityriasis rosea was due to syphilis.

Dr. Senear said that the lesions, which were excessively tender on pressure, were hard to correlate with gummatous erythema nodosum. They were doughy and soft and he thought if they were gummas some of them would have ulcerated before this. He agreed with Dr. Zeisler that it was erythema nodosum occurring in a syphilitic patient. He thought that possibly in patients treated as syphilitics who had erythema nodosum or pityriasis rosea, which had been stubborn or had recurred, the dermatosis might be somewhat influenced by anti-
syphilitic treatment. He had in mind particularly cases of urticaria recently reported which had cleared up under arsphenamin, some of which had been proved syphilitic and some not, and thought the improvement might have been due to the arsenic, but without there necessarily being any relation between the urticaria and syphilis.

(Note: A few days after the patient was shown the nodules ulcerated, showing the typical punched out appearance of gummatous ulcers.)

VON RECKLINGHAUSEN'S DISEASE. Presented by Dr. J. F. Waugh, Chicago.

A woman, aged 40, eight months before began to have lesions that were generalized over the body. They consisted of brownish pigmented areas, mostly coin size, and numerous soft tumors, some of which were subcutaneous, others distinctly elevated and varying in size from a pea to an English walnut.

ECZEMA. Presented by Drs. W. A. Pusey and F. E. Senear, Chicago.

A woman, aged 28, who had had eczema on the backs of the hands for fourteen years, presented a lesion on the back of the right hand which was of two years' duration. According to the patient, it had developed from one of the eczematous patches. It had reached its full development in two weeks and had remained practically unchanged since that time.

DISCUSSION

Dr. U. J. Wile, Ann Arbor, Mich., said it was a well-known fact that normal skin bacteria could produce hypertrophy and parakeratosis, and he thought this case could be explained by the persistence of the irritation present in a localized, chronic hyperkeratosis.

Dr. M. Haase, Memphis, Tenn., said that on examining the back of the hands he thought he had seen some flat, shiny plaques, and suggested the diagnosis of lichen planus verrucosa.

Dr. E. L. McEwen, Chicago, thought it was a case of lichen planus with hypertrophic lesions.

Dr. Pusey agreed with Dr. Wile that it was hyperplasia of the skin from long-continued irritation, and thought that careful study of the case would reveal no ground for considering it a case of lichen planus.

Dr. Senear agreed with Dr. Wile and Dr. Pusey but said no section had been made. He had thought of linear lichen planus hypertrophicus, but had not found any lesions which had at all suggested that condition. There was no angular configuration, and no flattopped, shiny lesions. The lesions changed in appearance from time to time, according to the length of time the patient had the hands in water.

A CASE FOR DIAGNOSIS. Presented by Dr. F. E. Senear, Chicago.

A woman, aged 25, presented lesions on the left wrist which had been present for a year. They began as slightly elevated papules, which regressed spontaneously, leaving scars. There were no subjective symptoms. The scars, which were thin and atrophic, and resulted without any apparent destructive process in the primary lesions, were suggestive of lichen planus atrophicus.

DISCUSSION

Dr. T. C. Gilchrist, Baltimore, thought it was a case of lichen planus.
Dr. Sénéar said he saw the patient in the dispensary and thought the case was so trivial that he did not pay much attention to it, but when he watched it a little more closely he did not know what it was. The only diagnosis which had presented itself to him was lichen planus atrophicus. When first seen the large plaque on the forearm was a velvety-feeling lesion; there was now a fresh lesion on the forearm. He would make a biopsy and report later.

PARAPSORIASIS. Presented by Dr. J. Zeisler, Chicago.

A man, aged 43, presented an eruption which began in March, 1919, following a bruise on the chest. In July, 1919, the patient was first seen with an eruption resembling pityriasis rosea, with macules and ringed lesions on the chest, back, groins and limbs. New lesions had continued to appear during the last five months, which spread peripherally, clearing up in the center and forming rings. No subjective sensations were complained of.

Treatment had consisted of strong antiseptics used locally.

DISCUSSION

Dr. T. C. Gilchrist, Baltimore, said he had seen six or eight cases of what appeared to be typical pityriasis rosea, but the eruption would not disappear and after a while became pigmented. It was afterward found that the patients had syphilis, and they came to the conclusion that it was the syphilitic infection which made them so persistent.

Dr. Zeisler said the case seemed a little unusual to him. The disorder had been present for nine months and six months ago seemed to be typical pityriasis rosea. He had had some personal experience with this disease, having had one attack which lasted for four months and five years later another attack which lasted for a shorter time. He had never seen a case in which new lesions appeared nine months after the onset.

LICHEN SCLEROSIS ET ATROPHICUS. Presented by Drs. W. A. Pusey and F. E. Sénéar, Chicago.

A woman, aged 60, developed a white spot over the right scapula two years ago. When she discovered this patch it was almost as large as it was at the time of presentation. Other spots had since appeared. There was slight itching, especially when the patient became warm. The eruption, limited to the scapular region, consisted of dead white colored lesions varying from split pea-size to one patch about 2 by 4 inches. The smaller lesions could be seen to coalesce to form the larger patches. Some of the lesions showed blackish follicular plugs.

DISCUSSION

Dr. U. J. Wile, Ann Arbor, Mich., said that on account of the peculiar whiteness of the lesions and because he saw a violaceous border, the most likely diagnosis in his opinion, was a morphea, although the lesion itself did not feel like morphea. It was somewhat atrophic. The outlying lesions that were on the outer side surrounding the larger lesion were atrophic and were also somewhat white, slightly angular in their configuration, and suggested the possibility of a lichen planus sclerosis et atrophicus, but the entire picture impressed him as that of a morphea.

Dr. J. Grindon, St. Louis, thought it was a case of morphea. He recalled a case of mixed scleroderma in which there were lesions that presented the appearance of those seen in this case. Among the small outlying lesions on
the left shoulder were little linear markings, which he regarded as characteristic. The fine cigaret paper appearance of the surface was sometimes seen in morphea. Dr. Grindon confessed that he had not seen lichen planus atrophicus as described by Hallopeau. The section did not show the picture of lichen planus but rather that of morphea.

Dr. O. S. Ormsby, Chicago, said he could not study the case as well as he had wished. The small lesions strongly suggested lichen sclerosis et atrophicus, but the large patch was unusual. In some cases of guttate morphea the comedo-like plugs were simulated in some of the lesions so that the distinction was sometimes difficult to make. In this instance he was undecided as to which of the two conditions was present.

Dr. T. C. Gilchrist, Baltimore, said that this was his impression. He had seen the white plaques beginning in this way with absence of pigmentation and slight atrophy and lesions on the left side with white plaques. The case, to his mind, was morphea.

Dr. Senear had seen the case with Dr. Pusey and when first seen these two diagnoses immediately suggested themselves. He read the papers of Drs. Wise and Ormsby and made a list of all the points given in the differentiation of white spot disease and lichen planus atrophicus, and from a study of that list his diagnosis was lichen planus atrophicus. The individual lesions were definitely angular, and the comedo-like plugs which Dr. Ormsby thought typical of lichen planus atrophicus were very definite here. The microscopic picture in lichen planus atrophicus was not at all that seen in ordinary lichen planus. In these cases the cellular infiltrate travels downward as atrophy takes place in the papillary layer. However, from reading these two exhaustive papers he found that the histologic picture of the white spot disease and lichen planus was practically indistinguishable. The same thing took place in both processes, and he thought the histology could not rule out the diagnosis of lichen planus atrophicus.

Dr. Pusey said that Dr. Senear had expressed his views. The lesions of morphea were punctate lesions; in this case they were distinctly irregular lesions of jagged outline. While the large patch was peculiar, if it was granted that the small lesions might be lichen planus sclerosis, the large patch was easily the result of a confluence of the small patches. There was much confusion in these two conditions, but he was much inclined to the view that it was not morphea. The halo was not the purplish halo of morphea but a very narrow coppery red halo.

PREMYCOTIC DERMATITIS. Presented by Dr. W. A. Stillians, Chicago.

A Jewess, aged 45, had suffered from an itching eruption since 1912. It began soon after the death of her husband and had been spreading slowly, clearing in some spots, but new lesions forming. There was severe itching, especially at night. The Wassermann reaction was negative.

The lesions were sharply defined, pale yellowish to dull red, slightly raised and slightly infiltrated plaques; some showed lichenification, others slight scaliness. They were present on the trunk, arms and thighs, under the breasts, in the axillae and groins. They were not symmetrical and ranged from one to three inches in diameter; they were mostly round or oval; a few were circinate and larger than the others in the lumbar region and on the abdomen. The scales were fine and adherent. The patient claimed that the use of soap and
water increased the itching. Numerous scratch marks were present on and between the lesions. Neither the itching nor the lesions had yielded in the least to a one half erythema dose of the radiotherapy a week after it was given.

Dr. W. A. Pusey, Chicago, thought it was a case of premycotic dermatitis.

PIGMENTARY SYPHILID. Presented by Dr. E. L. McEwen, Chicago.

A Polish woman, aged 33, came to the hospital suffering with a severe scabies which had been present for three weeks. She also presented areas of pigmentary mottling on the neck, back and arms, which were typically syphilitic. The Wassermann reaction was + + + , though the patient presented no other signs of the disease.

DISCUSSION

Dr. J. Grindon, St. Louis, said one point was of considerable interest to him, and thought a diagnosis of syphilis was warranted, not only because of the white patches on a pigmented background at the back of the neck, but because of the vitiligo on the arms and upper chest. The French school was right in making a sharp distinction between leukoderma and vitiligo. They hold that atrophy and hypertrophy of pigment in adjacent areas constitute vitiligo, and that vitiligo occurs only in syphilis. He wished to know whether there was other confirmation of the diagnosis of syphilis in this case.

Dr. W. A. Pusey, Chicago, thought Dr. Grindon was right in saying that the question of syphilis should be determined in this case, but he would not go so far as to say that the syphilitic-like leukoderma on the back of the neck warranted that diagnosis. He was not familiar with vitiliginous syphilids on the forearms. For a long time he saw no case of this irregular leukoderma on the back of the neck that was not syphilitic, but a number of years ago a German, or perhaps Jadassohn, published a picture of a leukoderma on the back of the neck in psoriasis, and he soon saw a similar case in which white spots occurred on the neck followed by pigmentation and accompanied by psoriasis. He thought many of these cases might be explained along similar lines. The patient might have had an inflammatory dermatitis accompanied by itching, in a very dark skin with a tendency toward the formation of pigment. He thought the pigment around these lesions was due to the stimulation of an itching dermatosis, while the increased whiteness of the leukoderma spots on the side were previous inflammatory lesions.

Dr. J. Grindon, St. Louis, said that until recently he had only seen the true pigmentary syphilid, or vitiligo, where every one was familiar with it, namely on the sides of the neck, but that not long ago he saw a woman with recent syphilis who not only had the condition on the neck beautifully developed, but the same condition extending down over the upper part of the chest, arms and forearms, as well characterized as he had ever seen it on the neck. This was an isolated instance, but the syphilitic character of the disorder seemed to be well proved. The patient was placed on antisypililitic treatment and the spots faded.

Dr. McEwen said the case was presented because it was such a splendid illustration of the pigmentary syphilid. In the past three or four years at the County Hospital he had seen a large number of pigmentary syphilids, not only in the later stage but also in the chancre stage; and not only on the neck but also on the arms and body. Most of the cases had been in women, but there was one man who developed an extensive pigmentary syphilid. As to pathogenesis, he had seen cases in which there was no possibility of an inflammatory process at the site of the lesion.
LUPUS ERYTHEMATOSUS, AND RAYNAUD'S DISEASE. Presented by Drs. O. S. ORMSBY and MITCHELL, Chicago.

A man, aged 28, was demonstrated before the Society by the late Dr. Harris last year. At the present time the lupus erythematosus had practically cleared but the Raynaud's symptoms remained the same.

MAJOCCHI'S DISEASE. Presented by Dr. J. Zeisler, Chicago.

A man, aged 26, a clerk, presented an eruption of one year's duration. On the flexors of the forearm, on the inner aspect of the thighs and groins were copper colored pigmented macules with red vascular puncta. On the scrotum were numerous dark macules. The lesions did not fade on pressure and caused no subjective symptoms.

DISCUSSION

Dr. J. Grindon, St. Louis, considered it a case of Majocchi's disease and was reminded of a case seen in Chicago at the meeting of the Association in 1915. This case resembled that one very much, although in this patient the lesions were more generally distributed.

Dr. W. A. Pusey, Chicago, thought it was a case of Majocchi's disease, but it seemed to him that one should be reasonably cautious about making a diagnosis of this disease, because no one had seen many cases. Dr. Harris had one case and that was practically the only one seen in this country. It was an exceedingly rare disease and not one in which a casual and careless diagnosis could be made. One fact against this diagnosis was that he did not see sufficient annular arrangement or enough telangiectasia to make him sure it was a case of this disease. He did not question the diagnosis, because he did not feel competent to do so, but issued a word of caution that it was entitled to further study and another presentation before the Society.

Dr. U. J. Wile, Ann Arbor, Mich., agreed with Dr. Pusey. It appeared that even to those who were familiar with the picture, the diagnosis was frequently only made by the microscope. As an example of this fact, one of his assistants had developed annular purpuric lesions all over his body. Dr. Wile and Dr. Engman, who recently saw him, thought he was undoubtedly developing Majocchi's disease. The lesions in this case first appeared on the arms; there was no hemorrhage but they were distinctly telangiectatic. They then appeared on the back of the knee and on the leg. He had been carefully examined and the laboratory had given the only associated findings. He had some normoblasts in the blood and also 4 per cent. eosinophils. Aside from that, there was nothing to show that he was ill. They had removed a piece for study and the pathologic finding was not that described by MacKee for Majocchi's disease.

Dr. O. S. Ormsby, Chicago, said that he had had two cases under observation for four months presenting lesions apparently similar to those seen in this patient and had not considered them examples of Majocchi's disease. The characteristic circinate configuration of the lesions was absent here. It would require further observation, together with a histologic examination, to place the case definitely. According to MacKee, Majocchi's disease presents a characteristic histologic structure.

Dr. T. C. Gilchrist, Baltimore, asked whether there was any relation in these cases to angiomat serpiginosum.

Dr. Zeisler said he had looked very carefully to find an annular arrangement, but it was not conspicuous. The patient was a healthy person who developed a purpuric eruption that had lasted for two years. The clinical picture
corresponded with Harris' case. They had had very little opportunity to see Majocchi's disease in Chicago, so it was difficult to come to definite conclusions. He would try to obtain a biopsy and report the findings.

LINEAR NEVUS, PSORIASIFORM TYPE. Presented by Drs. O. S. Ormsby and Mitchell, Chicago.

A girl, aged 15, had had the condition for nine years. The first lesion appeared above the elbow, new ones developing above and below. When first presented before the Society, in March, 1919, there were plaques of psoriasiform lesions extending from the wrist to a point half-way between the elbow and shoulder. These plaques varied in size, some being the size of a silver dollar or larger. There was some itching. In a large area near the wrist a scar was present in which the lesions were developing; this scar resulted from surgical removal of a large patch, followed by skin grafting. Early treatment had reduced the size but failed to remove any of the patches. At times the itching was marked.

During the year radiotherapy and keratolytic ointments had been applied, with little improvement. Scaling was less marked and some of the lesions were reduced in size, but otherwise the condition was unchanged. Histologic sections were presented.

DISCUSSION

Dr. J. Grindon, St. Louis, had thought the case was one of linear lichen planus until informed that the histology was not indicative of that disease.

Dr. H. G. Irvine, Minneapolis, thought the case was very interesting. He had seen the patient several months before, when she was first presented, and thought the condition had improved considerably under treatment. At that time there was considerable difference of opinion as to whether it was psoriasis or a nevus and it was interesting to see the patient again and have the diagnosis settled.

Dr. T. C. Gilchrist, Baltimore, asked whether sections had been removed from the untreated part. The section he saw showed some infiltration in the upper part and the lower portion showed definite telengiectatic condition.

Dr. O. S. Ormsby, Chicago, thought the case of interest because as many as five opinions had been offered at one time concerning its diagnosis. The first time the patient was shown she had lesions that were markedly psoriasiform and under treatment these lesions cleared up about 50 per cent. The only portions left were the small areas that were still present, and which had been resistant to further treatment. One gentleman thought it was psoriasis. The fact that she was 6 years of age when the lesions appeared made the diagnosis of nevus unlikely in the minds of some. Linear lichen planus was the most difficult to rule out; however, the histology was not that of lichen planus but appeared to conform to that of linear nevi. The recurrence of the lesions in the scar, the resistance to treatment and the histology justified them in considering it a linear nevus of the psoriasiform type.

PEMPHIGUS. Presented by Drs. A. W. Stillians and F. E. Senear, Chicago.

A Greek, aged 38, entered the hospital December 29, 1919, with sore throat and crusted lesions over the body. The throat had been sore since the latter part of November and about December 15 the eruption appeared on the chest and arms. The eruption consisted of flat, discrete blebs, which appeared in
DISCUSSION

Dr. E. L. McEwen, Chicago, said that this man came into the hospital a few days before complaining of a sore throat and mouth. He had not appeared to be very ill at any time. The mouth lesions continued about the same, beginning as blebs and promptly changing to erosions. New lesions were constantly forming on the body, beginning as blebs and quickly becoming crusts. He wished to know what the members present thought about the prognosis. At present the patient was on large doses of quinin without much evidence of improvement.

Dr. Senear had noticed that some time ago the late Dr. Zeisler stated that the cases of pemphigus which were characterized by flaccid bullae were of a more virulent type than the cases with tense bullae. This patient had lost some 15 pounds in weight; the pemphigus was not of the foliaceous type and yet he had a Nikolsky sign which the speaker remembered as a characteristic of the foliaceous type alone; his memory was perhaps faulty on this point.

Dr. D. Lieberthal, Chicago, thought the man was in a serious condition and that the prognosis was very grave.

PEMPHIGUS VULGARIS. Presented by Dr. D. Lieberthal, Chicago.

A woman, aged 38, the mother of three healthy children, had noticed the present affection in the throat and on the tongue about four or five months ago and about two months before presentation bullae started to appear on the chest, back, legs and arms. The latter were few in number and caused no great discomfort. The lesions in the mouth and throat, however, were painful, especially so at taking food.

DISCUSSION

Dr. W. H. Mook, St. Louis, said that he showed a case of pemphigus vegetans with a single lesion on the labia majora and bullae in the mouth, at the October meeting in St. Louis. Since then the patient had developed lesions typical of pemphigus vegetans over the body. She broke out in a typical bullous eruption and before the lesions disappeared vegetations appeared, the lesions became crusted and remained. The entire mouth was involved as well as the genital regions. The disorder seemed to come in exacerbations. The patient would get along fairly well and then would have a rise in temperature, new lesions would develop for two weeks and then the condition would remain stationary for about a month.

Dr. D. Lieberthal stated that it had been a great disappointment to him that the treatment of these cases had been so unsatisfactory. Every time he saw such a case he felt sympathy for himself as well as for the patient, for these patients had died in spite of all that had been done for them. He thought, however, that arsenic in proper form and large doses would produce some results. He advised against the slipshod manner of giving the drug. He preferred arsenous acid in gradually increasing doses. The patient might complain of difficulty in digestion and pain in the stomach, but he had found that this could be overcome by the administration of from 12 to 15 minims of dilute hydrochloric acid, three times a day.

One patient, a woman of 55, in whom the disease began with lesions in the mouth, in 1918, developed about a dozen bullae on the back and a few on the right cheek. She was given large doses of arsenic and kept compara-
tively comfortable. The lesions subsided from time to time, and no larger crops had been observed to occur than at the first examination. This patient had been seen by Dr. Ormsby also. This was the only case beginning with lesions in the mouth that Dr. Lieberthal knew of in which the patient had done so well and had lived so long.

The local treatment was, as a rule, of little assistance, but a cooling, soothing ointment was sometimes helpful. If the lesions of the skin were numerous, the only thing of benefit was the continuous bath. One patient had been kept by him in the bath continuously from October of one year until the middle of the following August, being out of the tub for only twelve hours during this time while the tub was being repaired.

The greatest length of time that he had known a patient to survive was three years; this was the last mentioned patient who suffered from pemphigus foliaceus and who had at no time of the disease shown lesions in the mouth. As a rule, the course of the disease was short when the first lesions occurred in the mouth. The shortest course was that of a patient who had died within three months, and the average duration was six months. Lesions of the mouth did not develop in about a third of his cases.

He knew of postmortem examinations of cases of pemphigus made in Vienna in which serial sections were made of every tissue of the body, but nothing was disclosed by them bearing on the etiology of the disease. He had posted one of his own cases, a pregnant woman who aborted shortly before death, and also the fetus, but found nothing of note.

Dr. M. F. Engman, St. Louis, thought the danger from drawing conclusions from treatment in pemphigus was the tendency the disease sometimes showed to undergo rapid involution. The best treatment he had seen was "the laying on of hands" in one case, which showed the inefficiency of treatment up to the present time. The patient was a woman who had been sent home to die as she was in very bad condition. A few days after reaching home she insisted on calling in a "healer" and her daughter, who was a trained nurse, wrote about it. The "healer" laid on his hands and the patient immediately got well and remained well for a year, which she attributed to the efficiency of prayer. He had, fortunately, told the daughter that the disease might undergo involution at any time, so she understood the condition.

Dr. J. S. Eisenstaedt, Chicago, asked how much leeway one should permit himself in the diagnosis of the primary lesions of pemphigus. He had been taught that the lesion was a bulla arising from an inflammatory base, then gradually detaching itself and becoming flaccid and sometimes developing an inflammatory areola. In the case recently seen by Dr. Lieberthal and Dr. Ormsby no tense bullae had developed at any time, the lesions appearing as flaccid bullae at all times.

Dr. J. Grindon, St. Louis, thought it was clear that the three types of pemphigus were distinct and separate, and that the acute, septic type was always fatal. He thought these conditions were being confused. As to the foliaceous type, he had a case similar to that reported by Dr. Engman. A young woman developed flaccid bullae all over the body and then passed through a stage when the fluid almost entirely disappeared and the appearance was barely distinguishable from dermatitis exfoliativa of grave type. This patient improved somewhat, returned to her home and employed a Christian scientist. He learned that she further improved but did not get well, and finally died after eight years. He believed that some patients lived a long time independent of treatment.
Dr. T. C. Gilchrist, Baltimore, stated that Dr. Hazen had reported the case of a patient who was kept in the continuous bath and cleared up with the exception of the face. The case was reported ten or twelve years ago and the patient was still alive last year. That man was in as bad a condition as the patient under discussion, and when he had a pronounced exacerbation he got into the tub at home, remained in the bath as long as possible and then got out. He thought this fact might have been efficacious in keeping him alive.

Dr. O. S. Ormsby, Chicago, thought a great deal of confusion was due to the early descriptions of the disease. As the cases were observed for longer periods it was necessary to change the early opinion a great deal. In the last ten years he had not seen a patient with pemphigus that recovered, and thought that all cases of true pemphigus terminated fatally sooner or later. He had seen three or four patients within the last few years that had died within three months. In his opinion the types were negligible and did not make much difference for the disease was practically the same in all types, though clinically different lesions occurred in various cases. He had presented a patient with pemphigus foliaceous before this Society, who was kept in a continuous bath at intervals for many months and who was still living, in fairly good condition. He believed that arsenic in pemphigus gained its reputation through its use in bullous dermatitis herpetiformis rather than in pemphigus. He had never seen pemphigus improve under arsenical treatment. Quinin seemed to be of some benefit in some cases, but the continuous bath had been of real assistance. He thought the acute septic pemphigus should be included in the pemphigus group. He had seen no cases of that type but the records showed that a large percentage died.

Dr. W. A. Pusey, Chicago, said that he saw a case in a sheep butcher and the man died in three weeks. Another patient recovered symptomatically.

Dr. W. H. Mook, St. Louis, called attention to one type that had not been mentioned, but which embraced all the types—the postvaccination. In this type all the lesions of the different varieties were found. Some cases of typical pemphigus in children after about a year developed into almost typical dermatitis herpetiformis. The vaccine type yielded to arsenic temporarily. In one case papular vegetations appeared in the axilla following the bullae and the patient recovered.

Dr. F. Cole, Detroit, said that in the last two months he had seen three distinct cases of pemphigus foliaceous with lesions of the mouth. One patient died with typical pemphigus vegetans; another developed flaccid bullae with lesions in the mouth and then began to have severe hemorrhages from the lesions and died within a week. In this case Dr. L. W. Ladd isolated a streptococcus from the blood stream.

Dr. U. J. Wile, Ann Arbor, Mich., said that he believed a sharp distinction should be made between the cases of true pemphigus vulgaris and bullous lesions of an infectious type, such as Dr. Mook mentioned, following vaccination and such as the so-called “butcher’s pemphigus.” The latter were distinctly infectious conditions with a picture of sepsis and with a distinct bacteriologic etiology. Dr. Wile did not think they represented an intermediate stage of pemphigus, nor were they in any way related to pemphigus vulgaris.

Dr. T. C. Gilchrist, Baltimore, said he had not seen a case that was typical of the description of pemphigus vulgaris in twenty-five years, but he saw many cases of pemphigus foliaceous.
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X.—PRECANCEROUS LESIONS OF THE SKIN OF THE VULVA

LEUKOPLAKIC VULVITIS, KRAUROSIS, PRURITUS*

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Nowhere is there a more fascinating field for the study of precancerous lesions than in the peculiar inflammatory conditions occasionally found in the vulva of old women. Only the comparative rarity of these conditions presents a bar to their satisfactory study. Those in the past who have based their views on one or two clinical observations, or who have not subjected their material to careful histologic study, have gone astray in their conclusions, and the confusion and difference of opinion that have been so marked in most of the articles written on this subject are largely due to this fact. The articles of Jayle and Bender in French, and Berkeley and Bonney in English literature deserve special consideration. My own material, gathered in the course of the past ten years, largely from the clinic of the Barnard Free Skin and Cancer Hospital (services of Dr. Gellhorn and myself) comprises thirty cases, twenty-three of which were complicated by malignant degeneration.

In most cases the malignant process involved only a comparatively small portion of the diseased area so that the precancerous lesion could be studied independently of the cancer. In all but five of the cases ample material for histopathologic study was obtained; sections were taken from four or five different areas, and the tissues stained with hematoxylin-eosin, Weigert, neutral and acid orcein, and glycerin-ether-polychrome-methylene-blue. In addition, pieces of vulvar tissue were obtained for comparative histologic study from normal and senile vulvae, pruritus vulvae and vulvar scars, and they were treated by the same staining methods.

On the clinical side also it was felt desirable to obtain more accurate information for comparative study. The normal variations in the senile

*Studies, reports and observations from the dermatological departments of the Barnard Free Skin and Cancer Hospital and the School of Medicine, Washington University, St. Louis, Mo., U. S. A., service of Drs. M. F. Engman and W. H. Mock.
involution of the vulva after the menopause has received but scanty mention in anatomic and gynecologic literature. Thibierge, who has written a good article on precancerous conditions of the vulva, states that he has seen all grades of vulvar atrophy and "is tempted to believe" that the extreme form of obliteration of folds does not vary greatly from the so-called "kraurosis vulvae." He made, however, no systematic study along this line. I, therefore, undertook an accurate study of the vulva in 100 women beyond the menopause, noting the age, number of children, age at menopause, general condition of the skin (dryness, elasticity, freckles, keratoses, warts, naevi, etc.), and the local genital condition (size of labia minora and clitoris, dryness, color, elasticity, scars, presence of vaginal discharge, etc.). The majority of these women were inmates of the City Infirmary and their average age was 67 years. I divided the cases in accordance with the amount of labial atrophy into four groups as shown in the following table:

TABLE 1.—Classification of Cases Studied by Author

<table>
<thead>
<tr>
<th>Labia Minora</th>
<th>Number of Cases</th>
<th>Average Age</th>
<th>Nulliparae, Percent</th>
<th>Extreme General Skin Atrophy, Percent</th>
<th>Vaginal Discharge, Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slight atrophy</td>
<td>0.5-1.5 m. high</td>
<td>21</td>
<td>66</td>
<td>62</td>
<td>14</td>
</tr>
<tr>
<td>Moderate atrophy</td>
<td>3-5 mm. high</td>
<td>33</td>
<td>67</td>
<td>41</td>
<td>53</td>
</tr>
<tr>
<td>Marked atrophy</td>
<td>1 2 mm. high</td>
<td>33</td>
<td>71</td>
<td>19</td>
<td>46</td>
</tr>
<tr>
<td>Extreme atrophy</td>
<td>Obliterated</td>
<td>13</td>
<td>68</td>
<td>11</td>
<td>52</td>
</tr>
</tbody>
</table>

The conclusions from this portion of my study are:

1. All variations of vulvar atrophy are encountered.

2. They are independent either of age, or of the amount of atrophy in other parts of the skin or of the amount of vaginal discharge.

3. The extreme forms of atrophy are more common in those women who have had children.

4. Cases of extreme atrophy present at times a markedly dry and brittle skin that cracks open on merely separating the labia for inspection.

5. In spite of frequent lack of cleanliness, pruritus was only rarely present.

Pathologic Conditions Studied

Turning now to the special pathologic conditions that come under consideration, we can distinguish four fairly well defined clinical entities: pruritus vulvae, kraurosis vulvae, leukoplakic vulvitis and carcinoma vulvae.

Simple Pruritus Vulvae.—This condition is not specially a disease of old age. It is often associated with general pruritus of the skin of toxic or unknown origin. Leukorrheal discharge from the vagina and rectal irritation from hemorrhoidal infection are common predisposing
Fig. 1.—Normal senile skin of vulva.

Fig. 2.—Skin of perineum in pruritus of vulva (Weigert's elastic stain). Elastic tissue practically normal; some acanthosis and parakeratosis.
factors, as evidenced by the relief experienced after correction of these ailments. Vulvar atrophy is not present and the only skin changes are those found elsewhere as a result of scratching, slight excoriations and at times a lichenification of the skin. There is no tendency to malignant changes.

*Kraurosis Vulvae.*—This condition is the result of repeated traumatism with low grade infection occurring usually in women after the menopause, in whom the extreme form of vulvar atrophy described above is present. Especially in younger women after postoperative menopause, do we find the factors favorable to its production. Apparently the skin is more brittle and the frequent slight traumatism of coitus leads to a chronic vulvitis with scar tissue formation and gradual shrinkage and sclerosis of the vulvar opening. Dyspareunia is pronounced, and is the chief symptom of which the patients complain. Pruritus is almost always absent, but a burning sensation is often felt. There is no tendency to malignant degeneration in kraurosis.

**TABLE 2.—LEUKOPLAKIC VULVITIS WITHOUT CARCINOMA**

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Children</th>
<th>Area Involved</th>
<th>Kraurosis</th>
<th>Duration of Pruritus</th>
<th>Treatment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1916. Cu</td>
<td>60</td>
<td>Single</td>
<td>Butterfly area over perineum</td>
<td>-</td>
<td>10 years</td>
<td>Excision</td>
<td>Cure 4 years</td>
</tr>
<tr>
<td>1917. Ha</td>
<td>27</td>
<td>3</td>
<td>One third of right labium</td>
<td>-</td>
<td>8 years</td>
<td>Excision (partial)</td>
<td>Recurrence March, 1929</td>
</tr>
<tr>
<td>1917. Mo</td>
<td>40</td>
<td>0</td>
<td>Both labia and clitoris</td>
<td>-</td>
<td>4 years</td>
<td>None Corpus luteum</td>
<td>Not followed</td>
</tr>
<tr>
<td>1917. Sh</td>
<td>57</td>
<td>3</td>
<td>Both labia, clitoris and perineum</td>
<td>+</td>
<td>13 years</td>
<td></td>
<td>Improved. Died of apoplexy, 1939</td>
</tr>
<tr>
<td>1918. Fu</td>
<td>66</td>
<td>8</td>
<td>Both labia, clitoris and perineum</td>
<td>+</td>
<td>10 years</td>
<td>Radium</td>
<td>Excision and radium in 1939. Marked relief. Incomplete excision had to be repeated. Last operation too recent. Improved. Relief. Died from tuberculosis Febr., 1939</td>
</tr>
<tr>
<td>1919. Hi</td>
<td>62</td>
<td>3</td>
<td>Labia excised, perineum and anal margin</td>
<td>+</td>
<td>13 years</td>
<td>Excision 2 X</td>
<td></td>
</tr>
<tr>
<td>1919. Wh</td>
<td>62</td>
<td>1</td>
<td>Both labia, clitoris and perineum</td>
<td>+</td>
<td>14 years</td>
<td>Excision</td>
<td></td>
</tr>
</tbody>
</table>

*Leukoplakic Vulvitis.*—This condition is with reasonable certainty to be attributed to peculiar skin changes resulting from a cessation of ovarian function. In from 90 to 95 per cent. of the cases the disease comes on after the menopause, and in the rare cases where it comes earlier, some disturbance of ovarian function can usually be noted. The skin changes, as will be shown more fully later, consist primarily of an absorption of elastic tissue from the uppermost layers of the corium over a portion or all of the vulva internal to the hairy portion of the labia majora. Such absence of elastic tissue leads readily to slight breaks in the epidermis with resulting low grade infection of the underlying connective tissue. The exudate thus produced leads to pru-
Fig. 3.—Leukoplakic vulvitis, Stage 1: marked lymphocytic infiltration of dermis, acanthosis of epidermis; some hyperkeratosis.
Fig. 4.—Leukoplakic vulvitis, Stage 1 (Weigert's elastic stain); absence of elastic tissue in upper layers of dermis, leukocytic reaction directly beneath the epithelium.

Fig. 5.—Leukoplakic vulvitis, Stage 2; showing increase of eleidin layer, hyperkeratosis and beginning hyalinization of the connective tissue.
ritus, which in the vast majority of instances (90 per cent. in my series) is the most prominent symptom of the disease. The pruritus in turn leads to increased traumatism and so the vicious circle is completed, the pruritus increasing and finally resulting in the thickened epithelial plaques which more or less fully cover the entire area diseased. Some writers have tried to see some relationship between these leukoplakic areas and syphilis, but in only two of our series was the Wassermann test positive and neither of these presented active syphilitic lesions. Furthermore, the disease is primarily one of old age whereas syphilis

![Fig. 6.—Leukoplakic vulvitis, Stage 3; showing pronounced keratosis, frayed out appearance of basement membrane of epidermis, marked hyalinized dermis, lymphocytic reaction, absence of elastic tissue.](image)
in its active form occurs in younger persons. Antisyphilitic treatment leads to no change in the leukoplakic vulvitis (Pichevin). The same criticism holds against those who attribute leukoplakic vulvitis to the irritation of vaginal discharge. In practically all of my cases such a discharge was absent. Perruchet and other have often found leukoplakic vulvitis associated with chronic arthritis or, as we would term it now, focal infection. In five of my cases a definite history of focal infection with the joint symptom was obtained, and I do not consider it unlikely that some relationship may be found to exist between
leukoplakic vulvitis and focal infection. In one instance excision of the vulva was coincident with marked improvement of rheumatic pains. The frequent association of leukoplakic vulvitis with an obliteration of the vulvar folds, such as we find in kraurosis, led early observers, such as Breisky, to believe that this obliteration was an essential part of the clinical picture. In the twenty cases of leukoplakic vulvitis of my series, such a kraurotic vulva was found ten times. From this we would, it appears, be justified in concluding that the extremely atrophic vulva is more apt than the moderately atrophic vulva to have superimposed on it an intensive elastic tissue atrophy with formation of leukoplakic vulvitis. The extent of the leukoplakic area varies from patches 2 to 4 cm. in diameter localized over a single area in the labial or perineal region to the more common form in which the entire labial

Fig. 7.—Leukoplakic vulvitis involving also peri-anal region with kraurosis of labial tissue and carcinoma of left labium.
surface, including the perineum and at times even the peri-anal region, is involved. The skin is dry and has a peculiar pearly-white, at times mottled appearance with numerous excoriations, a parchment-like feel and occasional slightly elevated plaques. Leukoplakic vulvitis shows a marked tendency to malignant degeneration. Perruchet found carcinoma in sixteen of nineteen cases. In our own series, fourteen of twenty cases had developed into a carcinoma.

TABLE 3.—LEUKOPLAKIC VULVITIS WITH CARCINOMA

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Children</th>
<th>Leukoplakie Area</th>
<th>Kraurosis</th>
<th>Duration of Pruritus</th>
<th>Duration of Carcinoma</th>
<th>Treatment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1912. Ba.</td>
<td>37</td>
<td>2</td>
<td>Right labia minus</td>
<td>-</td>
<td>4 years</td>
<td>2 months</td>
<td>Operation refused</td>
<td>Not traced</td>
</tr>
<tr>
<td>1914. Ki.</td>
<td>60</td>
<td>Single</td>
<td>Entire vulva</td>
<td>-</td>
<td>3 years</td>
<td>1 year</td>
<td>Excision</td>
<td>Died 1917, carcinoma</td>
</tr>
<tr>
<td>1915. Du.</td>
<td>65</td>
<td>0</td>
<td>Entire vulva and anus</td>
<td>+</td>
<td>3 years</td>
<td>7 months</td>
<td>Excision</td>
<td>No recurrence 1919</td>
</tr>
<tr>
<td>1915. Ka.</td>
<td>35</td>
<td>5</td>
<td>Both labia</td>
<td>-</td>
<td>1½ years</td>
<td>6 months</td>
<td>Excision</td>
<td>No recurrence 1920</td>
</tr>
<tr>
<td>1915. Tn.</td>
<td>60</td>
<td>9</td>
<td>Entire vulva and anus</td>
<td>+</td>
<td>22 years</td>
<td>1½ years</td>
<td>Excision</td>
<td>No recurrence 1920</td>
</tr>
<tr>
<td>1916. Br.</td>
<td>77</td>
<td>4</td>
<td>Upper half of labia</td>
<td>-</td>
<td>1 year</td>
<td>1 year</td>
<td>X-ray</td>
<td>Died without operation</td>
</tr>
<tr>
<td>1916. Ho.</td>
<td>66</td>
<td>Single</td>
<td>Entire vulva</td>
<td>-</td>
<td>2 years</td>
<td>1 year</td>
<td>Excision</td>
<td>Died postoperative 7 days</td>
</tr>
<tr>
<td>1916. Mu.</td>
<td>65</td>
<td>0</td>
<td>Entire vulva</td>
<td>-</td>
<td>Not present</td>
<td>1½ years</td>
<td>Excision</td>
<td>Died postoperative first day</td>
</tr>
<tr>
<td>1918. Eo.</td>
<td>56</td>
<td>Single</td>
<td>Entire vulva</td>
<td>+</td>
<td>6 months</td>
<td>3 months</td>
<td>Excision</td>
<td>Died 1919, recurrence carcinoma</td>
</tr>
<tr>
<td>1918. El.</td>
<td>72</td>
<td>3</td>
<td>Both labia</td>
<td>+</td>
<td>3 months</td>
<td>2 months</td>
<td>Radium</td>
<td>Died 1919</td>
</tr>
<tr>
<td>1918. Th.</td>
<td>68</td>
<td>4</td>
<td>Entire vulva and anus</td>
<td>+</td>
<td>30 years</td>
<td>9 months</td>
<td>Excision</td>
<td>No recurrence 1920</td>
</tr>
<tr>
<td>1919. Ho.</td>
<td>62</td>
<td>11</td>
<td>Clitoris and labia</td>
<td>+</td>
<td>1 year</td>
<td>3 months</td>
<td>Excision</td>
<td>No recurrence 1920</td>
</tr>
<tr>
<td>1918. Mc.</td>
<td>50</td>
<td>?</td>
<td>Labia only</td>
<td>-</td>
<td>1 year</td>
<td>4 months</td>
<td>Radium</td>
<td>Not improved</td>
</tr>
<tr>
<td>1919. St.</td>
<td>77</td>
<td>9</td>
<td>Labia only</td>
<td>-</td>
<td>1 year</td>
<td>1 year</td>
<td>Radium</td>
<td></td>
</tr>
</tbody>
</table>

Carcinoma Vulvae.—Like leukoplakic vulvitis, carcinoma is essentially a disease of old age. The average age in our series was 59 years. In only three of our twenty-three cases was menstruation still present. In view of the frequency of perineal lacerations and the extreme rarity of vulvar carcinoma, as well as the fact that multiparity is not specially associated with this form of cancer, it would seem that such perineal tears play a negligible factor in its etiology. Furthermore, the perineal region is only rarely and usually secondarily involved in the disease. Tertiary syphilitic ulceration was in two instances definitely associated with and probably an etiologic factor in the cancerous process. Both times the cancer developed from the edge of a typical tertiary lesion in women who had a positive Wassermann test and active syphilitic lesions elsewhere. Both were younger women. Dr. Gellhorn has observed a similar coincidence of the two diseases in one of his cases. A definite history of trauma preceding the cancer was obtained from two patients, so definite that it is not improbable to consider it an important factor.
One patient developed a cancer from the edge of a typical acuminate wart. In this patient the entire vulva was covered with such warty excrecences. In four cases no etiologic factors were to be found. Finally, there remained fourteen typical cases of leukoplakic vulvitis leading to a carcinoma. Some writers go so far even as to state that in every vulvar carcinoma a leukoplakia precedes it, but this would not be sustained in my series. The disease varies greatly in its malignancy. Sometimes the entire vulva is covered by an infiltrated cancerous ulcer within a few months; in other cases, the disease may persist as an

Fig. 8.—Leukoplakic vulvitis with carcinoma beginning in region of clitoris.
indolent ulcer for years. In the group I observed, those that had developed an extreme atrophy in the so-called kraurotic type, were distinctly more benign. In the ten kraurotic patients developing cancer the pruritus had lasted on an average for eleven years; in the other cases, the average duration of pruritus or other local symptoms was only one and a half years. Not only did they develop more slowly, but when removed by operation, they also showed a considerably higher percentage of permanent cure. At best, however, vulvar carcinoma has a high mortality because of the frequency with which the tributary lymph glands are involved early in the disease. The first symptoms are usually pruritus or burning after urination. This becomes associated with a rather free blood-tinged discharge which later becomes malodorous. Pain occurs only after extension to surrounding nerve trunks or as a result of glandular involvement.

**TABLE 4.—Carcinoma of Vulvae without Leukoplakic Vulvitis**

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Chil.</th>
<th>Probable Cause</th>
<th>Duration of Carcinoma</th>
<th>Treatment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1911. Ma.</td>
<td>71</td>
<td>6</td>
<td>Trauma..........</td>
<td>1% years</td>
<td>Excision</td>
<td>Rapid recurrence: death, 1912</td>
</tr>
<tr>
<td>1911. Yo.</td>
<td>59</td>
<td>0</td>
<td>Not determined..</td>
<td>1 year</td>
<td>Excision</td>
<td>Recurrence: death, 1912</td>
</tr>
<tr>
<td>1912. Be.</td>
<td>27</td>
<td>9</td>
<td>Syphilis.........</td>
<td>2 months</td>
<td>Excision</td>
<td>Recurrence, death 4 months late</td>
</tr>
<tr>
<td>1914. Ki.</td>
<td>66</td>
<td>0</td>
<td>Not determined..</td>
<td>1% years</td>
<td>Excision (partial)</td>
<td>Recurrence; died, 1914</td>
</tr>
<tr>
<td>1914. Ad.</td>
<td>55</td>
<td>6</td>
<td>Not determined..</td>
<td>8 months</td>
<td>Roentgen ray</td>
<td>No relief. Death 5 months later</td>
</tr>
<tr>
<td>1916. De.</td>
<td>43</td>
<td>4</td>
<td>Trauma..........</td>
<td>7 months</td>
<td>Excision</td>
<td>Not traced</td>
</tr>
<tr>
<td>1916. Sch.</td>
<td>33</td>
<td>2</td>
<td>Acuminated warts.</td>
<td>1 month</td>
<td>Roentgen-ray excision (incomplete)</td>
<td>Recurrence; death 4 months later</td>
</tr>
<tr>
<td>1918. He.</td>
<td>52</td>
<td>Single</td>
<td>Not determined..</td>
<td>5 months</td>
<td>Radium</td>
<td>No improvement: death, 1919</td>
</tr>
<tr>
<td>1919. Spr.</td>
<td>40</td>
<td>Single</td>
<td>Syphilis.........</td>
<td>1 month</td>
<td>Refused operation</td>
<td>Not traced</td>
</tr>
</tbody>
</table>

**Histopathology**

The normal vulvar skin in women beyond the menopause shows varying degrees of atrophic change. The epidermis is thinner; the papillary bodies are less prominent, and at times even absent; the connective tissue of the dermis is more sclerotic with relatively few cells; and the elastic tissue is equally distributed though not quite so abundant as in younger women.

In the case of ordinary pruritus not due to leukoplakic vulvitis, we find changes in the epidermis such as acanthosis and parakeratosis, but no lesions in the corium. The elastic tissue is of normal amount and distribution.

Leukoplakic vulvitis has been divided into four stages by Berkeley and Bonney.1 According to them, in the first stage, there is marked

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leukocytic infiltration directly beneath the epidermis but no other changes in the dermis. With these findings I cannot agree. Even in the earliest stages there is a distinct elastic tissue atrophy, so that I am inclined to believe that the elastic tissue changes are primary rather than secondary. Engman suggests that the absence of elastic tissue in the underlying corium tends to make the epidermis less coherent so that a slight traumatism would lead to breaks in the epithelial covering. This would result in infection of the dermis from without, and this in turn to exudation. Pruritus would inevitably follow and tend to renewed bruising of tissues and to chronic infection of the affected area.

Fig. 9.—Leukoplakic vulvitis with marked kraurosis and carcinoma of clitoris.

It is striking also that with but few exceptions leukoplakic vulvitis is symmetrical and follows the distribution of the endings of one or more branches of the pudic nerve. Usually the entire vulvovestibular region is involved. In others, as in 1916-Cu. (see Table 1), the lesion extended from the midline symmetrically over the perineum.

Stages 2 and 3 as described by Berkeley and Bonney show progressive changes in the epidermis and dermis. My sections correspond closely to their description. Carcinoma may arise in either of these
stages, but the earlier its origin the more malignant its course. In many instances sections from different areas showed varying stages of development, but where Stage 3 predominated, the carcinoma was more apt to assume the everting type of development, to grow more slowly, and, when removed by operation, to show a higher proportion of permanent cures.

Fig. 10.—Leukoplakic vulvitis limited to upper portion of labia and clitoris, without kraurosis, but with advanced carcinoma of right labium and perineum.

Stage 4 in Berkeley and Bonney is supposed to show the final or healed lesion and is characterized by atrophy of the epithelium and sclerosis of the connective tissue. I could find nowhere in my series any evidence of such a final stage in the disease, nor do I find any mention of this outside of these two writers. In their articles they do not give sufficient details to justify such an assumption. In my
experience, leukoplakic vulvitis may show periods of temporary improvement, but is not cured. In two thirds of the cases it leads to cancer and in the remaining, persists until the death of the patient, unless excised. We certainly cannot accept Berkeley and Bonney's description of the cured lesion without more definite proof.

TREATMENT

The treatment of simple pruritus vulvae usually consists in finding the special irritative factors — leukorrhea, rectal infection, toxic condition, etc.— and removing it, if possible. Local applications are usually of only temporary benefit. In the more pronounced kraurosis with dyspareunia, an incision widening the vaginal outlet will at times be necessary. Leukoplakic vulvitis will often improve for a time under antipruritic healing lotions, but recurrent attacks always follow until more radical measures are employed. In three instances I used radium, but with only temporary improvement after a period of extremely painful radium reaction. In fact, the reaction in these cases is so severe and the relief so comparatively slight that I strongly advise against its use. Roentgen-ray treatment is equally ineffective in the experience of most writers. On the other hand, complete excision of the affected skin leads to cure in a high percentage of cases. It is also indicated because of the marked frequency of malignant change. In those instances in which recurrences have been noted, the excision as done by me or by a previous operator had been insufficiently wide in extent. In cancer of the vulva roentgen-ray and radium treatment have given most unsatisfactory results. My own experience has been more with the use of radium. It is almost impossible to avoid pronounced radium reaction in the dosage necessary to affect a cancer, and invariably I have found that the partial local retrogression did not justify the extreme pain produced by the local irritation. Grandular involvement is almost invariably present so that surgery is distinctly to be preferred unless the patient is too weak for such a procedure. This should consist of the extensive local removal of the growth entirely with the cautery, associated with the complete lymphatic dissection of inguinal and femoral glands devised by Basset. The special feature of this lymphatic dissection consists of the incision of Poupart's ligament to get at the important glands situated deeply directly around the femoral vessels.

CONCLUSIONS

To summarize: The cessation of ovarian secretion, either by castration or at the menopause, leads to profound atrophic changes in the vulvar skin which, under special conditions, predispose to carcinoma. In all instances there is a general atrophy which varies greatly
in intensity, at times resulting in a complete obliteration of the genital folds. In married persons such extreme atrophy through sexual traumatism may lead to a mild chronic vulvitis with sclerosis of tissues, termed kraurosis vulvae. At times such extremely atrophic vulvae have superimposed a peculiar elastic tissue atrophy, which produces pruritus and a parchment-like inflammation known as leukoplakic vulvitis.

Finally, we have in the typical cancer following leukoplakic vulvitis a combination of three factors: cessation of ovarian function, disappearance of elastic tissue from the underlying dermis, and chronic inflammation. These are with reasonable certainty of special significance in the etiology of the malignant degeneration. Which factor, or which combination of them, plays the most important part is a matter for future investigation.
HYDRARGISM FROM THE APPLICATION OF A WEAK AMMONIATED MERCURY OINTMENT IN THE TREATMENT OF PSORIASIS

PAUL E. BECHET, M.D.
NEW YORK

Mercurialism following the application of an ointment containing a small amount of ammoniated mercury seems to be very rare. A review of the abstract department of the Journal of Cutaneous Diseases, now the Archives of Dermatology and Syphilology, from 1911 to date, failed to bring a single case to light. The author, with a large dispensary dermatologic practice extending over a period of ten years, has never encountered a case, in spite of the fact that ammoniated mercury ointment is the “pièce de résistance” of our dispensary formularies, and in use all of the time; in fact, its only worthy rival is the calamine and zinc lotion so well known by those of us who worship at the dermatologic shrine. This case, therefore, seems to be of sufficient interest to warrant a brief report.

REPORT OF CASE

History.—W. H. S., a man aged 45, a native of New York state, stated that he had been suffering from psoriasis for twenty months. It began on the scalp, and within a few months appeared on the legs and knees. In August, 1918, while in California, the eruption disappeared entirely. It recurred again on his return to New York a few months later. The recurrence was most severe, the eruption spreading gradually over the entire body. He was first seen, Sept. 29, 1919. His family and personal history were negative. He had never had a severe illness, and except for the worry and nervousness over his condition, he seemed to be perfectly well.

Physical Examination.—This was negative. The psoriasis was of a severe type almost universal on the arms and legs. There were large scaly plaques on the trunk varying from 4 to 12 inches or more in diameter. Some of the scales were as large as a silver dollar. There was also much branny desquamation. The eruption was extremely red and angry in appearance. Like all psoriatrics, he had made the usual round of medical men.

Treatment and Course.—He complained of severe itching, and was given the following salve:

R

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>gr. xx</td>
</tr>
<tr>
<td>Menthol</td>
<td>gr. xx</td>
</tr>
<tr>
<td>Powdered salicylic acid</td>
<td>gr. xl</td>
</tr>
<tr>
<td>Ointment of ammoniated mercury</td>
<td>5 i</td>
</tr>
<tr>
<td>Ointment of rosewater</td>
<td>ad 5 iv</td>
</tr>
</tbody>
</table>

M.

This was a 2.5 per cent ammoniated mercury ointment. When seen three days later, the itching had diminished but the condition of the eruption was about
the same. In the meantime, he had used 12 ounces of the salve without any mercurialism whatever. He complained that the menthol was too refrigera-tant. A new prescription was given containing a smaller quantity of menthol and ammoniated mercury:

R Phenol .................................................. gr. xx
Menthol .................................................. gr. x
Powdered salicylic acid ......................... gr. xx
Ointment of ammoniated mercury.............. 3 iv
Zinc oleate ............................................ 3 ii
Ointment of rosewater ........................... ad 3 iv

M.

This gave him 1 dram of the ointment of ammoniated mercury to 1 ounce of salve, which would be approximately 1.25 per cent. ammoniated mercury. Four days later he returned to the office complaining of slight trouble with his gums; he said that he occasionally had trouble with his mouth. On examination nothing could be seen. In view of the small quantity of ammoniated mercury used, and the negative appearance of the mouth, the diagnosis of mercurial ptyalism did not enter the author's mind. He was given a mixture of myrrh, sodium borate, and glycerin for his mouth, and told to continue using the ointment. There was so much eruption at the hair margins, that the following ointment for use on the scalp only was given:

R Phenol .................................................. gr. v
Ointment of ammoniated mercury.............. 5 iv
Zinc oleate ............................................ 5 ss
Bismuth subnitrate ................................. 3 ss
Ointment of rosewater ........................... 5 i

M.

He then disappeared from observation until Feb. 11, 1920, an interval of four months. The patient was highly intelligent and his statements could be thoroughly relied on. He stated that about a week after his last visit, he became severely salivated, all of his teeth were loose, he lost one permanently, the gums were spongy, bleeding and fetid. There were aphthous sores on the mucous membrane of the mouth. Liquid nourishment only could be taken, with consequent loss of much weight. He claimed that it was several months before he became well again. The psoriasis had disappeared entirely, and he ascribed this good result to the care of his family physician.

COMMENT

Chamot states that it takes from 30 to 40 grains of ammoniated mercury taken internally to produce dangerous symptoms. Yet the case under consideration presented severe symptoms of hydargism from the application of an ointment containing approximately 6 grains to the ounce, and applied twice daily, using about 2 ounces a day. It seems almost impossible that such a small quantity of mercury should have caused such an excessive ptyalism, yet the facts conclusively prove the opposite.
XI.—"SPIROCHETES" DERIVED FROM RED BLOOD CORPUSCLES *

FREDERICK EBERSON, Ph.D.
ST. LOUIS

In studying experimental syphilis in the rabbit, it has been noted on some occasions that testicular fluid obtained by puncture showed in the darkfield numbers of extremely tenuous, filamentous forms. These flexible bodies in some degree simulated Spirochaeta pallida in motility and spiral structure, and yet were clearly not the specific organism. The problem was not so much that of explaining any possible relationship that these forms might bear to the spirochete as to throw light on their origin. The easiest interpretation—only too readily invoked in the field of bacteriology, unfortunately—would have been that of ascribing to these forms a stage in the so-called life cycle of Spirochaeta pallida. It is not the purpose of this brief paper to enter into a discussion of the work that has been published recently in this connection by British and American writers. It is merely in the spirit of a suggestion that I wish to mention my observations. They may serve as a control experiment which may have been overlooked in the natural zeal for the discovery of something that must be startling because of its appeal to the imagination. There may well be different stages in the life-cycle of Spirochaeta pallida, yet until studies along these lines are made scientific and convincing, we must view with scepticism any theories that explain negative darkfield findings by assuming transmutations or the union of male and female spirochetes to form intermediate elements, and the like.

The observations with which this paper will deal are undoubtedly well known to the physiologist. Their application, however, to darkfield study of Spirochaeta pallida has not been shown, and no attempt has been made to explain certain findings in the testicles of rabbits—findings that have led some workers to suggest these appearances as phases of the life-cycle of the organism causing syphilis. A search of the literature has disclosed remarkably few citations (two, in fact) of a point that becomes clear and simple when interpreted in the light of what one observes in the course of numerous darkfield examinations

*Work done under a grant from the Interdepartmental Social Hygiene Board.
*Studies, reports and observations from the dermatological departments of The Barnard Free Skin and Cancer Hospital and the School of Medicine, Washington University, St. Louis, Mo., U. S. A., service of Drs. M. F. Engman and Wm. H. Mook.
of material taken from normal testes as well as from those having syphilitic orchitis. In a particular instance worthy of mention, Graetz observed in a specimen of bloody testicular fluid, tenuous flexible bodies which were for the most part attached to red blood corpuscles. A few weeks after the initial puncture of the rabbit testis, characteristic *Spirochaeta pallida* could be demonstrated in the darkfield. This is mentioned also by Mühlens in the “Handbuch der pathogenen Protozoen (v. Prowazek).” No explanation is given for the interesting observation, but it is suggested that the possibility of a stage in the development of *Spirochaeta pallida* cannot be disregarded.

At the very outset, it was apparent that the irregularity with which it was possible to demonstrate these puzzling “*spirochetes*” from the same rabbit testicle, was possibly due to some fortuitous factor. Indeed, this supposition became more reasonable when it was observed that specimens which were tinged with blood invariably contained the spirochete-like forms. Even in those instances in which a few red blood corpuscles were present in the darkfield, the same bodies were found. A careful study of individual blood cells in the field soon offered convincing proof that these were the source. Within a few minutes after preparing the darkfield specimen, slightly crenated red cells were soon to give off minute protuberances resembling buds which grew longer until the periphery of the cell assumed the appearance of a ciliated structure. As the length of these filaments increased, lashing and undulation progressed vigorously. The corpuscle in the meantime lost its original contour with a corresponding increase of opacity at the center, until the gelatinous threads, having attained a length of two and three times that of the diameter of the cell itself, broke away into the stream. Every field showed great numbers of actively moving “*spirochetes*” that developed in the manner described (Fig. 1). This phenomenon must be attributed to the extreme susceptibility of red blood corpuscles to environmental influences, as a few simple experiments devised with this in view have shown.

That a very delicate physiologic balance must be maintained in order to preserve the normal structure of red blood cells is a fact. Osmotic pressure, surface tension and complex physicochemical factors may be disturbed readily in any specimen of diluted blood. Changes observed in the darkfield are manifestations of these extraneous influences. The transformation of red blood cells has been observed repeatedly by the writer even in many specimens of spinal fluid which were found to contain some corpuscles. When freshly obtained, normal cells were added to a specimen of spinal fluid, the same changes occurred.

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Salt solutions, prepared with varying concentrations of sodium chlorid ranging from 1.0 to 1.5 per cent. and having a \( p_H \) value of 7.0 were used as a menstruum for defibrinated blood obtained from normal rabbits. Darkfield specimens were set up with each kind of salt solution, and the red cells studied for one half hour. The changes were most rapid and most marked in the 1.5 per cent. salt solution. Within five minutes, the cells assumed a "medusa-head" appearance; and great numbers of detached, flexible, spirochete-like bodies could be found in every microscopic field. The phenomenon was correspondingly less striking in the solution of diminishing salt content. If a blood-tinged specimen of testicular fluid was examined after the addition of a drop of 1.5 per cent. of salt solution, the change in the appearance of the corpuscles was remarkable. The transformation, instead of progressing gradually, became abrupt.

**EFFECT OF NEUTRAL HYPOTONIC SALT SOLUTION**

With neutral salt solution (\( p_H 7.0 \)), varying from 0.75 to 0.6 per cent., similar changes were noted. The most rapid and complete transformation into "spirochetes" took place in the 0.6 per cent. solution; in 0.7 per cent. saline after three to five minutes, and in 0.75 per cent., after prolonged contact ranging from twenty to forty-five minutes.

**EFFECT OF PHYSIOLOGIC SALT SOLUTION WITH VARYING H-ION CONTENT**

Several series were set up with physiologic salt solution prepared with H-ion concentrations of 6.4, 6.8, 7.0, 7.4, 7.8 and 8.4. In all of these solutions the same rapid change of red cells was seen. It was
surprising that a neutral, physiologic suspension did not hinder the
formation of the curious filamentous bodies that have been described
above. It suffices, therefore, merely to remove red blood corpuscles
from their natural surroundings in order to observe these interesting
changes.

In all cases, regardless of the surrounding medium, it was found
that if a minute trace of highly diluted acetic acid was touched to the
cover slip while observing the specimen in the darkfield, the actively
lashing bodies would disappear completely from around every blood
cell and from the field in general.

DISCUSSION AND SUMMARY

The simple experiments that have been described, need no exhaus-
tive comment. It is obvious that the search for typical Spirochaeta
pallida may be made less difficult if light be thrown on confusing
artifacts which, as in this instance, have been interpreted by some in
an entirely erroneous manner.

It has been shown that spirochete-like bodies are derived from red
blood corpuscles. These bodies bear no relationship whatever to the
organism of syphilis and may be produced at will. Influences, such as
H-ion content of solutions, tonicity and transfer from the usual
environment are sufficient for the demonstration of the phenomenon.
These nonspecific and inanimate bodies may be seen in specimens of
fluid that are apparently free from blood. However, a very careful
search of numerous fields will reveal the presence of at least one red
blood cell which is all that is necessary for the transformation process.
The failure to find red cells in a specimen of testicular fluid is not
invalidating proof of the contention that the "spirochetes" are thus
derived. Both normal as well as spirochete-infected testicles show
these bodies, but their presence has nothing whatever to do with the
life-cycle of the specific agent in syphilis. They are merely derivatives
of red blood corpuscles.
THE ETIOLOGY OF ECZEMA*

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Professor of Dermatology, Medical Department, Howard University
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THREE THEORIES CONCERNING ETIOLOGY OF ECZEMA

The history of the early views held concerning the etiology of eczema has been well given by both Brocq ¹ and Besnier.² These views, as well as those of more recent times, are admirably summarized in an excellent article by Highman.³ The opinions of various men and of various schools are widely diverse and are often painful to the logical mind. In general, it may be said that there are three theories: First, that the disease is due to external irritation or infection (Unna); second, that there is some mysterious internal factor at work, and that the skin reaction is due almost exclusively to this; and third, that there is an interaction between internal and external causes, both being necessary to produce the eruption.

It is now generally recognized that external irritation may cause a cutaneous condition that is indistinguishable from eczema (Knowles,⁴ Highman), and many physicians believe that this factor plays a great part in the production of lesions usually known by the name of eczema; in other words, a dermatitis venenata is really one form of eczema.

The theory that a staphylococcus was responsible, once so fervidly championed by Unna,⁵ has been abandoned, thanks partly to the work of Pertini,⁶ Török,⁷ Cole ⁸ and others, whose views are set forth in Highman's article. At the same time it is well recognized that certain infections of the skin, notably those caused by an epidermophyton, produce skin lesions which are indistinguishable from eczema, and that at times so-called eczematous processes may be complicated by secondary infection.

*Read before the meeting of the American Dermatological Association, held at Atlantic City, June, 1919.
HAZEN—ETIOLOGY OF ECZEMA 643

In regard to the supposed internal factors that may cause an eruption resembling eczema, we have many speculations but few facts. As Johnston's paper shows, there is absolutely no proof that any error of metabolism is responsible. Recently there has been a tendency to blame protein sensitization and this has taken two forms: First, focal infection has been held responsible, and many a tooth, whose roentgen-ray picture showed a translucent area near the root, has been extracted, and in 99 per cent. of the cases the skin condition has merrily gone on unchanged. It must be recognized that focal infections can do much harm to the system, but there has been entirely too great a tendency on the part of some dermatologists to make these infections the cause of every condition from falling hair to a plantar dermatosis, and it is time to employ sanity in the interpretation of our evidence. Second, sensitization to some food protein is even now on the high road to popularity and for the next few years we shall doubtless have an exhibition of thousands of cases diagnosed by some food test, usually of the cutaneous type, and cured by either immunization with minute doses of food or by abstinence from it altogether. While we must remember that cutaneous tests may be important, let us not assume that such tests can take the place of all other diagnostic methods. Remember luetin!

Likewise various nervous influences have been mentioned as possible etiologic factors, apparently usually by those who do not know an axon from a dendrite and who have never heard of the vegetative nervous system. At the present time a few men are trying to show that on physiologic and clinical grounds there is good reason to believe that the vegetative nervous system through the action of the vagus nerve may cause a skin irritation, but most of the older writers mentioned nervous influence as a convenient way of dodging an issue. Reede's paper should be read by any one who is interested in the subject.

Highman enumerates several other theories of internal causation and the interested reader is referred to his paper.

There is a strong school composed of some of our best men (Neisser, Tilbury Fox, Fordyce, Jacquet and Jourdanet, and Hall) which believes since internal causes alone can but rarely cause eczema and since external irritants, using the term in its broad sense,

13. Tilbury Fox: Skin Diseases, 1873.
do not produce the same results on every skin, there must be an interaction of internal and external factors. It must be admitted that external irritation does not affect every skin in the same way, but for this there may be a number of purely local reasons. The irritant may be more intense or remain longer in contact. Certain factors in the skin itself may be responsible. For instance, there may be more perspiration that can at times act as a solvent; the pores or sebaceous openings may be more patent; there may be less protective oil; the horny layer may be thinner; deficient circulation may be responsible; the skin may be dry and minutely cracked. In other words, purely local conditions will probably explain many of the facts alleged to demand an internal causation. At this point it should be mentioned that practically every writer on the subject of eczema has recognized the importance of local predisposing causes.

CONDITIONS DIAGNOSED AS ECZEMA SEPARATE DISEASE ENTITIES

One of the most important facts concerning the etiology of so-called eczema is that of recent years a larger number of conditions, previously diagnosed as eczema, have been shown to be separate disease entities. One of the first to go was seborrhoeic dermatitis. Then it was appreciated that dermatitis venenata was another, although the importance of this great subtraction has not as yet been properly felt. Engman and others have separated infectious eczematoid dermatitis as due to a staphylococcus infection. Eczema back of the ear is now generally believed to be an impetigo. Sabauraud, Whitfield, Ormsby and Mitchell, and others have shown that the so-called eczema of the palms and soles is frequently due to an epidermophyton infection. Other writers have striven to separate lichenification, neurodermatitis and a chronic papular dermatitis of the axillae and groins, although it must be admitted, as the paper by Dr. Wise well shows, that much confusion still exists regarding these conditions. The lichenification of Vidal (lichen simplex chronicus) has definite characteristics; it is preceded by itching and does not become vesicular, and is the result of irritation and not necessarily the result of a so-called eczema; in the future it will be classed as a disease entity.

HAZEN—ETIOLOGY OF ECZEMA

Pathologically we have no characteristics that serve to distinguish eczema as an entity (Highman), nor does the clinical course of the disease or its response to therapeutic measures serve as a guide.

We cannot but conclude that today eczema is in the position that rheumatism was a few decades ago and that eczema as an entity will meet the same fate that while we shall recognize a clinical picture that is similar we shall also recognize many causes that are responsible, and that we shall make it our business to search for these causes. Even today the expression "eczema" is most undesirable for at least two reasons: First, patients have a belief that eczema is incurable and are afraid of it; second, students diagnose a condition as eczema and take much joy in their cleverness; they pay no attention whatever to causation, thus precluding themselves from the class of good therapeutists. The recognition of the cause of any case diagnosed as eczema is of the greatest importance, for we can then effect a cure and prevent a return of the trouble.

STUDY OF 195 CASES OF ECZEMA

In the following study of 195 cases the method of selection employed was: First, private patients with intelligence enough to aid in the work were chosen; and second, they were kept under observation long enough to permit a thorough study. The methods of study utilized were:

1. The history of all patients was carefully taken. A special effort was made to find external irritating factors, and in many instances a visit to the home or place of employment was made. Inquiries were made as to the use of soap and water, the effect of the use of a scrub brush or of sand for cleansing purposes; the effect of cold and windy weather, or of hot weather and excessive perspiration; the wearing of wool or fur next the skin, or the use of wool blankets at night; the use either accidentally or intentionally of various chemical substances, such as hair tonics, face creams or of various irritating substances used in the arts, trades or professions; the care of flowers, especially of the primrose—and many similar queries.

2. A search for epidermophyton was made in all suspicious looking lesions on the hands, feet and crural region. The results of one search were never considered as conclusive evidence.

3. In a few instances in which bacterial infection was suspected, especially in lesions spreading from the anal region, a bacterial study was made and autoinoculation experiments made on the patient.

4. All doubtful cases were thoroughly studied by a competent internist, not a general practitioner, one well versed in the physiology of the vegetative nervous system.
5. All children were studied by a competent pediatrician.

6. Roentgenograms were taken of the teeth of practically all of the doubtful, and of many of the other patients, and in more than one instance teeth showing root abscesses were extracted.

7. In two or three instances in which there was a history of intestinal trouble roentgen-ray studies were made of the digestive organs.

8. Cutaneous food tests were applied to all doubtful cases.

A total of 195 patients were examined. In many instances the cause of the disease was easily determined, but in several instances it appeared probable that there was more than one cause, and in a number of cases the results were so baffling that we hesitate even to make a suggestion as to the cause.

The following table shows the results:

**Cause of Eczema in Patients Examined**

<table>
<thead>
<tr>
<th>Cause</th>
<th>No. of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Local Irritation:</strong></td>
<td></td>
</tr>
<tr>
<td>Soap and water</td>
<td>36</td>
</tr>
<tr>
<td>Weather</td>
<td>6</td>
</tr>
<tr>
<td>Occupation or chemicals</td>
<td>30</td>
</tr>
<tr>
<td>Clothing</td>
<td>18</td>
</tr>
<tr>
<td>Plants</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
</tr>
<tr>
<td><strong>Local Infection:</strong></td>
<td></td>
</tr>
<tr>
<td>Bacterial</td>
<td>4</td>
</tr>
<tr>
<td>Epidermophyton</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
</tr>
<tr>
<td><strong>Local Predisposing Causes:</strong></td>
<td></td>
</tr>
<tr>
<td>Excessive sweating</td>
<td>16</td>
</tr>
<tr>
<td>Frostbite</td>
<td>1</td>
</tr>
<tr>
<td>Varicosities</td>
<td>5</td>
</tr>
<tr>
<td>Xeroderma</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
</tr>
<tr>
<td><strong>Internal Causes:</strong></td>
<td></td>
</tr>
<tr>
<td>Disturbed vegetative, nervous system</td>
<td>14</td>
</tr>
<tr>
<td>Disturbed food assimilation, eczema of children</td>
<td>12</td>
</tr>
<tr>
<td>Urticaria</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
</tr>
<tr>
<td><strong>Combined causes</strong></td>
<td>9</td>
</tr>
<tr>
<td><strong>Undetermined Causes</strong></td>
<td>26</td>
</tr>
</tbody>
</table>

The lesions due to external irritants are so well known that it is hardly necessary to describe them. They usually occur on exposed surfaces or on surfaces subject to irritation. In size the lesions are not necessarily confined to the site irritated for they may be spread over a considerable area, at times even spreading to other portions of the body, possibly as an anaphylactic response. Various degrees of lesions are found, ranging from a simple erythema to a deep vesication, according to the amount of irritation.
Regarding staphylococci as a possible cause of so-called eczema, the following experience is illuminating:

In one family four members were suffering from different types of classic eczema. While looking over the situation it was noted that the pet dog also had an eruption. Inquiry elicited the fact that the dermatitis in the patient had invariably started on those portions of the body that came in contact with the dog. For instance, in the man of the house the eruption first appeared on the ankle, which the dog rubbed against, and in the mother on the neck, the dog frequently cuddling against that place while the woman lay on the bed. A *Staphylococcus aureus* from all of the patients and from the dog was grown in pure culture and on autoinoculation it produced lesions similar to those in the patient.

Ormsby and Mitchell, as well as other dermatologists, have shown how frequently epidermophyton infections may be mistaken for eczema. In two of my cases the organisms could not be found until a number of weeks had elapsed, although they were carefully searched for, hence they are included in this list. However, in view of a marked tendency to blame many conditions on organisms associated with the ringworm parasites, it is pertinent to wonder whether in certain instances these organisms may not be secondary invaders rather than the producers of the dermatologic condition.

Dermatitis in the groins and axillae is frequently due to excessive sweating and at times to friction either of the opposing skin surface or of clothing. It is questionable whether the cases due to sweating should be classified under the heading of local irritation or local predisposing causes.

The forms of dermatitis associated with varicose veins or with an unusually dry skin call for no comment, as they are well known.

The group of cases associated with disturbances of the vegetative nervous system, and clinically usually showing signs of a vagotonia, are a distinct clinical entity. As is becoming more generally recognized, the vegetative nervous system is composed of two portions, the vagus and sympathetic systems. These two sets of nerves regulate the functions of the viscera and the skin. As the impulses sent out over these two sets of nerves produce diametrically opposite results in the organs which they supply, it is obvious that some kind of balance must be maintained or one set would gain the upper hand. This happens in many instances; when the vagus impulses predominate the patient is spoken of as a vagotonic, and when the impulses through the sympathetic impulses predominate, he is spoken of as a sympathochotonic. Among the common symptoms shown by the former are: slow heart action, often irregular; bronchial asthma; acute attacks of rhinitis with a profuse discharge lasting only a day or so; pyloric stenosis; spasm of the colon and sudden attacks of urticaria or of an
acute dermatitis resembling eczema. The sympathocotonic would naturally show an opposite set of symptoms.

In dermatitis associated with disturbances of the vegetative nervous system the lesions usually begin on the flexures of the elbows and knees and frequently on the sides of the neck, radiating from the sternoclavicular articulation up under the ear. Larger surfaces may be involved secondarily. The axillae or groins may be invaded at the time of the initial attack, but this is rather unusual. The lesions may be erythematous, but are more frequently distinctly papular; they may also become vesicular, and if there is much itching, as there often is, there is considerable weeping as the result of the irritation produced by scratching. These lesions are spoken of under a large variety of names, such as neurodermatitis and other names collected by Wise.

Disturbances of the vegetative nervous system may be due to first, a protein hypersusceptibility, either to a food or to bacteria (focal infection); second, possibly to mechanical irritation, such as teething; and third, to psychic irritation.

As an interesting example of a case resulting from the first cause, the following case may be quoted:

The patient was an apparently healthy boy aged 9. Three or four times a year he had attacks of bronchial asthma, at times associated with pyloric stenosis and always with a violent "eczema," usually most marked on the flexures of the arms and leg, in the inguinal area and on the neck. His mother had noticed that whenever he drove behind a horse and whenever he ate chicken or veal such an attack would almost invariably follow. The cutaneous food tests gave marked reactions to horse dander and to the two articles of food.

As an example of the psychic cause, the following instance is noteworthy:

A strong, apparently healthy, boy, 8 years old, occasionally suffered from "sick headaches," from bronchial asthma and from an "eczema," more severe in the flexures of the knees and elbows, but at times affecting most of the trunk. Two other children gave a history of more or less frequent attacks of bronchial asthma associated with urticaria. The mother was suffering from what had been diagnosed as an exophthalmic goiter and the father was a high strung, hard working, scientific man. The patient had been perfectly well for about a year, when one day a neighbor's boy set a dog on him; his father came along and scolded him for being frightened; within half an hour he had pyloric stenosis, bronchial asthma and a violent attack of dermatitis. The two former conditions were easily controlled by atropin but the latter was more persistent and yielded only to the roentgen ray. On carefully questioning both the boy and his mother it became evident that the attacks had always followed scoldings by the father when the youngster felt himself not to blame. This was made clear to the parents and for over a year no member of the family has had a recurrence of the conditions.

Naturally the treatment of these cases depends on the cause, and at times psychanalysis is necessary, provided it be made by a com-
petent man. Atropin will sometimes relieve the condition, and the roentgen ray is valuable in bringing about resolution, although at times it is a complete failure.

Infantile eczema is generally due to disturbances in food assimilation, the carbohydrates and fats usually being held responsible. It is possible, however, that there may be other varieties of "eczema" in children and it is necessary to be watchful. I recall one case in which a widespread dermatitis was traced to the careless rinsing of clothes, which were washed by a careless maid, a strong cleansing powder being used.

Cases that began with an urticaria were particularly interesting, especially as I was able to study all of them from the beginning. It is not generally recognized that a so-called eczema may originate from an urticaria, and few authorities even mention the coexistence of the two conditions. The patient first notes a more or less general itching; within twenty-four hours a papular eruption appears, localized to a small part of the body, usually the trunk or limbs, either extensor or flexor surface, which rapidly spreads until a considerable surface is involved. The papules may coalesce or more rarely become vesicles. The itching is usually intense. These patients usually recover speedily after the intestinal tract is thoroughly cleaned out, and after the application of soothing lotions.

The cases that I have classed as combined are those in which there was apparently an area of external irritation and also some more or less definite internal cause. Several of them apparently belonged to the group of disturbed vegetative nervous system cases, but no other signs of such trouble could be found; however, the distribution of the disease was most suggestive.

In twenty-six cases I was unable to determine the cause, although in several instances I suspected it. In two cases I am inclined to believe that a dilated colon was responsible, and one patient recovered after two abscessed teeth were extracted. This, by the way, was the only one of my cases in which the extraction of a tooth affected the course of the disease. In two other cases I felt that infection around the teeth might be responsible for the condition, but as we could not get rid of the infection this could not be proved. In another instance it is possible that a slight glycosuria was the cause of the trouble.

**CONCLUSIONS**

1. Eczema while giving a definite clinical picture is in reality due to the following causes: external irritation, external infection, local predisposition of the tissues, disturbances of the vegetative nervous system, disturbed food assimilation and urticaria, the latter probably being due to a protein hypersusceptibility.
2. The day will come when the word "eczema" will no longer be used, just as the word "rheumatism" is now passing from usage. There is no more relationship between a dermatitis due to external irritation and due to vagotonia than there is between a gonorrheal arthritis and a syphilitic one.

3. As clinical entities now well established the following may be suggested: dermatitis due to external irritation; vagotonic dermatitis; urticarial dermatitis and dermatitis due to disturbed food assimilation (the eczema of young children). None of these conditions should be classified as eczema, as this only results in confusion and a failure to discover the cause.
XII.—SKIN REACTIONS TO APOTHESSIN AND QUININ
IN SUSCEPTIBLE PERSONS*

WILLIAM H. MOOK, M.D.
ST. LOUIS

Idiosyncrasy of certain persons to drugs, causing various skin rashes, is of common occurrence, but the proof that an eruption is due to the ingestion of a drug is generally lacking. In many cases of repeated rashes invariably following the ingestion of a drug, such as quinin or balsam of copaiba, the cause and effect are so obvious that further proof is seldom sought and generally is not necessary.

The field covered by skin manifestations of untoward action of chemicals, toxins of various kinds and foreign proteins, whether applied externally, taken through the alimentary canal or injected into tissues or directly into the blood stream, is enormous, and with the introduction of new drugs is of unlimited possibilities.

Idiosyncrasy to drugs may be described as the unusual reactions of certain persons to drugs, whether applied externally, taken into the stomach, or injected into tissues or the blood stream; it may be mild, severe, or even fatal, and manifested by skin eruptions or various systemic disturbances, the degree probably represented by the individual susceptibility.

Drugs are administered or applied up to their physiologic effect, and when given or applied in doses over the known physiologic amount, reaction, local or systemic, results. When a severe systemic reaction or a skin rash develops following local or internal use of a drug in average doses the person is known to be susceptible to the drug or to possess an idiosyncrasy to it.

The explanation of the phenomenon is unknown and requires further researches in physiologic chemistry. The chemical or foreign substance used probably unites with an unusual systemic chemical, peculiar to the person and produces a new product, or toxin, generally more or less harmful, and is nature's warning to desist from the application or administration of the given remedy. The reaction may be anaphylactic. The time and degree of reaction vary considerably, and both are factors determining the toxicity in a given case.

Iodoform applied locally producing a vesicular dermatitis, mild phenol packs on infections producing gangrene, mild mercuric chlorid

*Studies, reports and observations from the Dermatological Departments of the Barnard Free Skin and Cancer Hospital and the School of Medicine, Washington University, St. Louis, Mo., U. S. A.; service of Drs. M. F. Engman and W. H. Mook.
solutions as used by surgeons on their hands and forearms producing a subacute dermatitis, wearing of furs producing dermatitis around the neck, and hair dyes producing severe dermatitis of the face, neck and even the trunk, leaving the scalp free of inflammation, and the various trade dermatoses are all well known external irritants in certain persons. Dr. Engman and I have had patients who used the same brand of hair dye for fifteen years without trouble and then suddenly developed a typical hair dye dermatitis.

Of drugs given internally or intravenously the list is practically unlimited. We well remember a baby, 9 months old, who was given 2 grains of potassium bromid three times in one day—6 grains in all—presenting fungoid lesions over the face and entire body, up to the size of a quarter, every one of which left a permanent, disfiguring, hypertrophic scar, the lesions continuing to appear for about six weeks after the one day's ingestion of the drug.

Fig. 1.—Localized dermatitis twenty-four hours after apothesin was applied to forearm.

Arsenic, given internally, generally requires months to produce the typical keratoses indicating its untoward effect. Arsphenamin may provoke a skin eruption after one small dose or many repeated large doses. Quinin and balsam of copaiba are usually rapid in their production of skin manifestations, and their severity or extent may be quite surprising when the amount of the drug taken is ascertained.

Toxic foods and errors of metabolism producing urticarias of various kinds with erythema multiforme, and vesicular and bullous lesions are of course numerous, and in these the etiology is more obscure, but they depend on an unknown toxin which has a peculiar effect on certain persons. Serum eruptions and reactions are frequent, but they occur only in individuals peculiarly susceptible.
The study of dermatoses from external irritants is of vast importance from a trade point of view, for among all workers in factories handling dyes, chemicals and oils—in painters, paper hangers, plasterers, etc.—a few will be found to have, or to develop at a later period, an idiosyncrasy to the particular irritant employed in their work. Sensitization has taken place.

We have had a considerable number of dentists apply for treatment for persistent eczemas of the fingers and hands due to the various chemicals used by their profession. The following case is a typical one caused by apothesin, a new drug used for local anesthesia.

REPORT OF CASES

Case 1.—History.—On June 18, 1919, Dr. X., a dentist, aged 33, applied for relief from a subacute dermatitis of the index, second and third fingers of his left hand. The eruption on the index and second fingers chiefly involved the palmar surface of the last joints, with a mild inflammation around the entire nail. It was reddened, slightly scaly, crusted, with some oozing of serum, and showed a few small fissures. On the lateral surface of the third finger between the first and second joints was a similar sharply circumscribed patch. No other fingers were involved. The eruption had been present five weeks.

Treatment and Course.—He was immediately informed that his eczema was due to some chemical he was using in his work. Inquiry developed the fact that he was injecting apothesin as a local anesthetic. His method of procedure was to place a tablet in the barrel of the syringe, add water and then hasten solution by knocking the syringe on his third finger. The few drops lost on the fingers in this process were responsible for his eczema. He stopped work entirely and within one month the eczema was entirely well under 1.5 per cent. ichthyol in Lassar's paste.
Experiment.—We prepared a 1 per cent. solution of apothesin and applied it to a small scarification on his right forearm with water controls, such as are applied in food sensitization tests. Within twelve hours a distinct wheal was produced at the site, one-half an inch in diameter, and at the end of forty-eight hours the locally produced dermatitis reached its maximum. It consisted of a localized area of redness with edema, 4 cm. in diameter. The swelling subsided considerably after three days but the area was reddened and there was some crusting and scaling. The area was pruritic and five days later slight edema and inflammation of the eyelids developed, due to scratching and rubbing of the lids. The areas were persistent and required about two weeks to disappear without treatment.

As novocain is said to be a drug similar to apothesin the experiment was repeated after recovery from the apothesin, with a similar clinical result but not quite so marked a reaction.

Fig. 3.—Reaction following application of apothesin (kindness of Dr. J. H. Stokes).

The patient was exhibited before the Chicago Dermatological Society when it was entertained by the St. Louis Society, in November, 1919. Since then, Dr. Stokes of Rochester has sent me the report of a similar case in a dentist in whom eczema was produced by apothesin and the skin test showed an exactly similar clinical reaction.

Case 2.—A medical student at Washington University informed me that he was particularly susceptible to quinin, the smallest amount taken internally producing an erythematous rash over his face and body with uncomfortable systemic disturbance.

Experiment.—March 11, 1919, 2:15 p. m.: Three areas, 1 cm. long and 2 cm. apart were scarified on the flexor surface of the left forearm and on each was placed one drop of a solution of quinin hydrochlorid in physiologic sodium chlorid. The amount of the quinin was exceedingly small, contain-
ing $\frac{1}{3}$ grain in 1 c.c. of physiologic sodium chlorid. Within five minutes distinct wheals were seen at each scarified area. At a point just below the bend of the elbow, 2 minims of a similar solution (containing $\frac{1}{10}$ grain) were injected intradermally. Fifteen minutes later slight redness at this site was noted. He stated that three hours after the tests were applied all areas had became inflamed and tender. The patient was not seen until 10:50 p. m., or eight hours and thirty-five minutes later, when the reaction was most striking.

The points of scarification and injection were intensely reddened and swollen and there were separate patches of dermatitis in the vicinity. The site of the intradermal injection was particularly inflamed and had developed into an area 6 cm. in diameter. He stated that the entire arm felt sore.

Twenty-four hours later the reaction had greatly subsided. There was still edema with some erythema. The reaction at the site of the injection had reduced to 2 cm. in diameter. The scarified areas were still reddened but no wheals or edema existed.

Case 3.—Another patient, a physician who always develops an erythema multiforme-like eruption over his body two or three days after an injection of arsphenamin, was tested by applying the solution to a small scarification on his forearm with a negative result.

The first two patients demonstrate two types: one known to be susceptible to a drug from external use, and the other from internal administration of a drug, and in both the test served as an easy method of proof of the etiologic factor.

The tests are suggested as an easy means to ascertain causes of certain dermatoses, and when positive should prove invaluable, especially where trade dermatoses are suspected.
TWO UNUSUAL PHASES OF HEPATIC SYPHILIS*

UDO J. WILE, A.B., M.D.

ANN ARBOR, MICH.

The gross and microscopic pathologic features of hepatic syphilis are in the light of our present knowledge well recognized and easily determinable. The close resemblance of these pathologic pictures to those of nonsyphilitic origin, particularly in the group of cirrhoses, is reflected in the clinical aspects of liver disease. Syphilis, the great imitator, is perhaps never seen in a more advantageous rôle as such than in hepatic disease.

The incidence of liver syphilis is second only in frequency to that of syphilis of the heart. McCrae is authority for the statement that syphilis of the liver occurring late is as frequent as late involvement of the nervous system. Considering that a fairly advanced degree of cirrhosis or cicatrization may be present without giving rise to clinical symptoms, and that such involvement is not frequently an accidental postmortem finding, it is evident that the incidence of hepatic syphilis is higher than would be indicated by figures drawn from clinical experience. The special predilection for spirochetal invasion in the substance of the liver is held by some as accountable for the great frequency of involvement of this organ. However this may be, liver syphilis is a predominating clinical and pathologic finding in both the inherited and acquired forms of the disease.

The whole subject of liver syphilis covers far too large a field to be covered by me in the time allotted, and such a review is moreover apart from the purpose of this paper. I should like to emphasize merely two phases of liver syphilis: The first — "icterus gravis syphiliticus," also known as "icterus syphiliticus praecox," merits description by reason of the fact that it is hardly mentioned in American literature. The second, syphilitic cirrhosis, deserves a detailed description by reason of the apparent lack of correlation of its pathologic and clinical features and because of peculiar therapeutic considerations bearing on it.

ICTERUS GRAVIS SYPHILITICUS — "ICTERUS SYPHILITICUS PRAECOX"

Jaundice, occurring as a rare complication at the outset or in the early secondary period of syphilis, was recognized as early as 1585 by Paracelsus. It is also mentioned by Portal, Monti, Botallus, Fallopius and other writers of the latter part of the sixteenth century, in accord-
 ance with the early belief that the liver was the site of election for venereal disease. At a much later date Ricord described icterus in two cases of early syphilis, and ventured the statement that the syphilis was the cause of the jaundice. Gubler, in 1853, substantiated the observation of Ricord, adding seven cases which, by clinical observation at least, were those of true syphilitic jaundice. Still later Lancereaux was able to collect twenty cases of true syphilitic icterus.

Jaundice in early syphilis is now recognized as occurring in two forms—mild jaundice and severe jaundice or icterus gravis. I shall pass over the subject of mild jaundice, as it has no further place in this essay. Suffice it to say in passing, that it differs in no way symptomatically from the simple catarrhal jaundice, and that its incidence in early syphilis is recorded in about five-tenths of one per cent. of all cases. This mild form has been shown to have a varied pathology. The jaundice may actually be obstructive from the pressure of lymph glands on the common duct, as recorded by Engel-Reimer. In other cases, on the other hand, it has been shown to be due to a more diffuse inflammatory reaction of the biliary ducts and portal lymph vessels. Mauriac reported an active inflammation of the liver with hyperemia and stopping up of the biliary ducts.

With the grave form, or syphilitic gravis icterus, we are dealing with a parenchymatous hepatitis, and as it occasionally supervenes on a milder form it is not unlikely that some cases of the mild icterus, at least those in which we are dealing with a mild hepatitis, differ only from the grave form in degree.

Of far greater importance than mild icterus is the graver form. Occasionally supervening on the former, it may often arise with a stormy onset and a rapid course. The tendency, if unrecognized and untreated, is for the condition to go on clinically and pathologically to acute yellow atrophy.

In 1854 Lebert, from a collection of seventy-two cases of acute yellow atrophy, recorded seven as associated with early syphilis. Tierfelder found that eight out of eighty-one cases of acute yellow atrophy occurred in old or recent syphilitic patients. Recognition of the syphilitic nature of certain cases of acute yellow atrophy is found in Osler’s Modern Medicine in which it is stated that 10 per cent. of all cases occur during early syphilitic diseases.

Up to 1898, thirty-nine cases of icterus syphiliticus gravis had been garnered from the literature by Richter, with an addition of two cases in his own experience. This number was increased to fifty as collected by Umber in 1911. In 1894 the condition was well recognized by Lasch and described by him under the name of icterus syphiliticus praecox. Many cases were subsequently reported under this title.
From all recorded cases the condition seems to be much more common in women than in men, the ratio being about five to one. For the most part the icterus occurs coincident with the exanthem. It may, however, precede this. In practically all cases the condition occurs during the first year of the infection.

Cause of Icterus Gravis.—The cause of icterus gravis has been carefully studied by Buschke and Zernick in 1911, who concluded that it is due to a syphilotoxic parenchymatous hepatitis, a jaundice of the nonobstructive type. This view was earlier advanced by Buraczinski and Vespremi and Kanitz, and is generally accepted today as the correct explanation of the pathology of the disease. Such incidental factors as pregnancy, abortion, gonorrhea and sepsis may play a minor rôle. In none of the recorded cases was previous liver disease present or demonstrable. The administration of mercury does not play a part in the causation of the condition.

Symptomatology.—The symptomatology of icterus gravis syphiliticus is that of acute yellow atrophy, differing only from other cases in that it yields to specific treatment when recognized early. The onset is variable, generally insidious. A mild icterus usually appears as the first objective sign, accompanied by malaise, vomiting and constipation, but usually without marked gastro-intestinal symptoms. There may be a slight rise in temperature, although it often becomes subnormal. The pulse is usually accelerated. Lumbago and muscular pain are common and there may be severe abdominal cramps. Often debility and a toxic condition similar to that seen in typhoid fever are present. Cases with ascites are reported. While not a uniform finding, hemorrhagic symptoms are reported by many authors. These are manifested by gingivitis, purpura, bloody vomitus, melena and occasionally hemoptysis, hematuria and metrorrhagia.

The second stage of the disease is far more definite. In onset it is marked by a change for the worse in the general condition, by rapid decrease in the size of the previously enlarged liver, the appearance of maniacal symptoms associated with intense headache, disturbance of vision and the occurrence of leucin and tyrosin in the urine. Pupillary disturbances and amblyopia are common. Marked psychic depression, restlessness with insomnia, convulsions and delirium are among the associated mental factors. Apart from the jaundice the clinical symptoms may often resemble meningitis, and indeed partial paralysis and strabismus have occasionally been noted. Marked dyspnea occurs late. A persisting constipation extends throughout the condition, and such dejecta as occur are extremely offensive. Death usually occurs in coma, with accompanying complete sphincter relaxation.

The urine is diminished in amount and highly colored with bile pigment. There is no glycosuria, but small amounts of albumin and
casts are a frequent finding. Crystals of leucin and tyrosin are invariably present, often in so great an abundance that they spontaneously precipitate. This finding is regarded by Senator, Buschke and Zernik as pathognomonic of liver atrophy. Rolleston, however, does not regard it so. There is no characteristic blood picture.

The liver is enlarged at the onset in all cases. The enlargement is smooth, both lobes being equally involved. Tenderness is recorded in one third of the total number. After a variable period reduction in size comes on suddenly, associated with the severe symptom enumerated above and heralding a rapidly fatal outcome.

Necropsy Findings.—At necropsy the liver presents the typical picture of acute yellow atrophy, often being reduced to one third of normal size and weight. The more slowly progressing cases reveal areas of acute yellow atrophy interspersed among areas of red atrophy, the latter representing early destruction. In some cases the entire liver is not affected, while in others not a single normal cell remains.

Of great interest is the negative finding of spirochetes at necropsy, as recorded by Buraczinski, Vespremi and Kanitz, Fischer and Bendig.

Prognosis.—Unrecognized cases are invariably fatal. The course is somewhat longer than that of acute yellow atrophy from other causes, the average duration of the recorded cases being eighty-four days. Many cases, however, ended fatally in less than two weeks. In one of Bendig’s reports a mild icterus with indefinite prodromes extended over three days, followed by a stormy exacerbation and death within twenty-four hours.

The older writers regarded the condition as invariably fatal. Compared with other types of acute yellow atrophy, however, if the syphilitic nature of the case be recognized, the prognosis for the recovery is fair. Isolated cures even in advanced cases are recorded by Duhot and Umber. In Senator, Buschke, Zernik and Lasch’s case recovery is recorded even after an appreciable decrease in the size of the liver had taken place, with the findings of leucin and tyrosin in the urine. Purgation with calomel, intensive mercurialization and arsphenamin are indicated by most authorities.

To the cases of recovery after correct diagnosis I may add one observation by myself at the University Hospital in 1916.

In this case, studied by Hewlett and myself in our wards, there occurred in a man of 38, shortly after the appearance of syphilis, the acute onset of a fulminating type of jaundice. The liver was enormously enlarged and excessively tender. The spleen was likewise enlarged and firm. The stools were clay-colored. The urine contained large amounts of albumin, casts and numerous crystals of leucin and tyrosin. The abrupt onset, without gastro-intestinal symptoms, the absence of fever, the enlargement of the spleen, the intensity of the jaundice, the leucin and tyrosin in the urine, all pointed to the syphilitic nature
of the disease, rather than to a simple catarrhal jaundice. Added weight to
the presumptive diagnosis was given by the associated nephritis. During the
first few days of observation the patient's condition became much worse, the
liver appreciably decreased in size day by day, confusion and delirium set in
and we were faced with the clinical picture of acute yellow atrophy. Under
vigorous mercurialization, together with large doses of iodid of potash admin-
istered at this stage, the patient made a rapid recovery and was apparently
restored to complete health.

Since the employment of arsphenamin and its derivatives in the
treatment of syphilis, a new type of jaundice has been added to those
hitherto known. This jaundice may be mild in type, in which case it
is apparently due to the retention of arsenic in the liver. Severe cases
leading to death, however, are reported in the German and French
literature, in which, according to Milian, the condition is a hepato-
recidive analogous to that occurring in the nervous system. From a
study of these cases, of which I have seen five, I am inclined to believe
they are in no way related to the condition just described.

Icterus gravis syphiliticus, unrecognized, carries with it the prog-
nosis of acute yellow atrophy. Recognized and differentiated from
other forms and intelligently treated, it presents a clinical picture carry-
ing a gratifying prognosis in the face of a seriously grave destructive
process.

**SYPHILITIC CIRRHOSIS**

If I have had the temerity to bring up a subject, the clinical aspects
of which are no doubt thoroughly familiar to clinicians in general, it
is because I am convinced that great confusion exists in the correlation
of the pathologic and clinical features of late syphilis of the liver.
The pathologic status of liver syphilis, moreover, is today a confused
and debatable field among pathologists. From the pathologic side it
may be accepted that late syphilitic hepatitis is due to direct involve-
ment of the parenchyma on the one hand, and primary involvement
of the blood vessels with secondary changes in the parenchyma on the
other. Undoubtedly most cases combine both features.

Various types of hepatic syphilis are described as pathologic entities
which do not in fact have their clinical analogues. The attempt to
differentiate clinical forms of liver syphilis, so that they shall corre-
spond to the kaleidoscopic pictures of the pathologist leads to con-
fusion. The entire status of the cirrhoses, syphilitic and otherwise, is
today a matter of debate and polemic. In the gross and microscopic
pathology of liver syphilis certain facts stand out which, if recognized
and emphasized, would lead to a clearer understanding of the clinical
phases of the disease.

*Two Forms of Late Syphilis of the Liver.*—Late syphilis of the
liver is either diffuse or circumscribed. The diffuse forms, consisting
of multitudinous infiltrates and miliary gummas, lead to an extensive interstitial fibrosis. The more circumscribed form, consisting of isolated infiltrates and larger gummas, leads spontaneously and under treatment to localized fibrosis. The end-result in either case is identical—a cirrhotic liver. A combination of these two forms is perhaps more common than either one alone. Reconstructing the pictures clinically, therefore, one has a small atrophic liver, with or without ascites, and resembling the Laennec type as a result of diffuse infiltration, and a lobulated, either hypertrophic or atrophic liver, cirrhotic in patches, resulting from the more circumscribed type. The latter is the so-called "hepar lobatum."

The reason one or the other type predominates in a given case would lead us into the realm of speculation. It is not impossible that previous liver injury or disease, and the predominance of syphilis of the hepatic blood vessels, are causative factors.

Alcohol as a Predisposing Factor.—Among other factors which are emphasized as predisposing the liver to syphilis, alcohol stands out. McCrae asserts that it is an important factor, and in only five of his seventy cases was alcohol not used freely. In my own series of closely studied cases I cannot subscribe to this view. Alcohol played a minor, if any, rôle in the causation of the disease in my cases. Interesting in this connection is the fact that certain pathologists today deny the existence of an alcoholic atrophic cirrhosis and are inclined to regard this as always syphilitic.

Size of Liver.—The question of the size of the liver is a matter of much confusion to clinicians but of little moment. It depends not so much on the difference of form of cirrhosis present as to the time when the patient is seen. I have repeatedly seen hypertrophic livers become distinctly shrunked and gradually recede during the period of treatment, underneath the costal border. In about half the cases in my series the liver was extensively enlarged at the first examination. In practically all at a later date hypertrophy became less marked. Enlargement of the spleen is an early and constant finding, and I believe of great differential diagnostic importance.

Symptomatology.—It is a well established fact that an advanced degree of either one of the two types of hepatic syphilis or their combination may be present without any symptoms, and may be an accidental necropsy finding. In this connection I have been impressed by the frequency of symptomless hepatic syphilis, associated with tabes and with other forms of visceral syphilis.

The morphology, then, of clinical hepatic syphilis depends on the appearance in the one case of tumor, in the other of obstructive portal circulation leading to ascites and the combination of these two con-
ditions. There is no reason for a detailed description of the various symptoms that may or may not be present with interstitial syphilitic cirrhosis. These are familiar to all clinicians of experience. In the light of biologic laboratory tests and in the more close observation and study of syphilis less and less mistakes occur in the diagnosis of this condition. There are certain therapeutic considerations associated with liver syphilis, however, to which I beg to direct your attention.

Prognosis.—The consensus of opinion is that, compared with other forms of hepatic disease, syphilitic hepatitis has an admirable prognosis. I wish to concur in this view in so far as it applies to the focal types, i. e.: gummous hepatitis, hepatic lobatum, and to certain cases of the interstitial type.

During the past eight years I have had a very unusual opportunity of studying many cases of hepatic syphilis in its various forms at the University Hospital. Given equal conditions, I have been struck with the great difference in the prognosis as worked out in various cases. I have been able to separate my cases broadly into three classes. The first type is syphilitic cirrhosis, in which gummous tumors were the predominating features. In a general way the prognosis of this condition stands out as the best of the three types. The second type consists of combined gummous hepatitis and interstitial cirrhosis, in which not only tumors are present, but there are associated cirrhosis symptoms. In this type, as well as in the third class, that of the pure interstitial and diffuse type, an apparent paradox in the treatment occurs. Patients improve with regard to syphilis and become worse or die from cirrhosis.

The reason for this is not difficult to understand. Hepatic syphilis in any case is but one phase of a widespread constitutional infection, one phase of an extensive visceral syphilis. Improvement in general health, improvement in associated anemia, in the not infrequent nephritis and in general vascular tone may be expected and is usually noted, following specific treatment.

What happens, however, to the liver? The gummatus masses in the combined form disappear rapidly. They are replaced by scar tissue. The associated multitudinous microscopic syphilomas are likewise rapidly dispersed. In both instances the replacing scar tissue produces a more advanced degree of cirrhosis than was caused by the gradual attrition of the disease process. At the end stage, therefore, one has to do not only with the disease itself, but with the mechanical factor of pressure from scar tissue.

In this type of case my experience has been that there is an immediately apparent improvement in the patient's general condition, soon dispelled, however, by the more rapid onset of ascites.
Indeed in not a few cases the ascites has first appeared following the improvement in the general condition. In a case under my care at present it has been necessary to perform paracentesis twenty-six times at weekly intervals, a total amount of over one hundred and fifty liters, more than twice the patient’s weight, being removed. In this type of case there can be no question of a collateral circulation being established. Indeed this in itself could lead to no improvement in the condition. The graveness of the condition is due rather to the throwing out of function of the liver as a secreting organ than to the ascites. Exhaustion and death are the rule in this type and occur as a direct result of disturbed metabolism.

**Correlation Between Pathologic and Clinical Findings.**—In conclusion may I be permitted to emphasize the fact that an easier correlation between pathologic and clinical findings would be possible if it were remembered that the differences in the pathologic and clinical features are rather those of degree, size and time than of morphology? The determining factors in recovery in the last analysis that are likewise the determining factors in the differences of the clinical and pathologic features are: First, that unknown factor which determines the circumscription or diffuseness of the process—in other words, the extent to which complete fibrosis and inclusion of liver tissue in scars occurs; second, the extent to which compensatory hypertrophic lobules of liver tissue can find access through the scar tissue to the circulating blood. Alcohol, in my experience at least, plays a minor rôle, if it is of any significance, in the pathology and clinical features of this form of the disease.
The increasing use of roentgen rays in the treatment of cutaneous diseases make the fundamental laws of their production and their physical characteristics of more than passing interest. That the busy practitioner cannot spend the time to become a trained physicist is obvious, but it is equally certain that some general ideas may be of value in the selection of apparatus and in the rational use of the roentgen ray. While a single, brief article cannot fully serve this purpose, it may be of service in presenting the main physical features.

Origin of Roentgen Rays

Roentgen rays are one manifestation of what the physicist refers to as energy of radiation, of which light and radiant heat are the more generally known. These radiations are originated by some disturbance of the minute parts of which matter is composed, i.e., of molecules, atoms or of subatomic bodies called electrons. The latter have borne various names during the development of modern views on electricity, such as cathode rays, beta rays, etc. They play an important part in all physical phenomena, especially in roentgen rays and in radioactivity.

It may be well to state that the term ray is used to indicate two unlike classes of physical phenomena in both physics and medicine. In one class small particles of definite size and properties are projected from matter into the surrounding space. Thus, when an atom of radio-active matter breaks down there may be projected alpha particles or rays, beta particles or beta rays. These differ in size and electrical quality as well as in velocity. They are concrete entities that may be counted and studied as individuals. Again we use the term ray to define the path along which some wave-like disturbance travels as in the case of light rays, heat rays, roentgen rays and gamma rays, where no transfer of matter is involved.

A bullet dropped on the surface of still water might, if we wished, be called a lead ray and the radii of the spreading waves system set up could be named some sort of rays, but they would only indicate a direction of wave propagation not material. In the case of sound the direction along which sound is received might be called a sound ray, but no projectile is involved.
The phenomena of sound may readily serve to illustrate certain terms used in this article that are often not well understood. Consider the case of the piano—a tense string receives a blow from a hammer. The hammer is said to cause a mechanical disturbance at the point of impact. A passing on of this disturbance to successive portions of the string results in setting up what are called waves along the string. These waves travel in the string with velocities determined by its weight and tension, so that a single displacement results in a vibratory system of waves. If the tense string is long and heavy, these waves will be long and of low vibration frequency; if short and light, the waves will be short and the frequency will be high. The string also becomes a source of waves transmitted by the air, known as sound waves. These are never simple, but consist of many frequencies and wave lengths, all propagated at the same velocity.

The particular characteristic of sound that is related to wave length is pitch, while the quality of a sound is fixed by the total number of pitches composing it and their individual loudness.

Turning now to light we have the same general ideas, but the source, the transmitting medium, the wave lengths and the frequencies are all of quite another order and are appreciated by a different sense mechanism. While sound requires a tangible material for its propagation, such as air, wood, water, etc., light, while originating in some substance may be propagated through the most complete vacuum. Experiments have shown conclusively that light is due to electromagnetic actions and originates in the disturbance of the electrical components of atoms. The same is true of roentgen rays and gamma rays which, like light, are not corpuscular or due to projected particles, but are real electromagnetic waves. We may compare sound and light roughly as follows:

<table>
<thead>
<tr>
<th>TABLE 1.—COMPARISON OF SOUND AND LIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sound</strong></td>
</tr>
<tr>
<td>Source</td>
</tr>
<tr>
<td>Frequency</td>
</tr>
<tr>
<td>Wave length</td>
</tr>
<tr>
<td>Velocity</td>
</tr>
<tr>
<td>Composition gives</td>
</tr>
</tbody>
</table>

Roentgen rays in turn differ greatly from light waves. Their vibration frequencies are even greater and their wave lengths much shorter; their velocity of propagation and origin are, however, the same as for light. One can hardly conceive of the very minute quantities involved in the production of these rays or the shortness of their wave length, but an idea of relative sizes may be gained by comparison.
It is customary in physics to select such units of measurement as will avoid the use of very small fractions or of very large numbers. Thus the micron, or one one thousandth of a millimeter, is often used as a unit in microscopy. An average hair is about 20 microns in diameter or 20/1,000 mm., 2/1,000 cm.

In measuring wave lengths of light the Aengstrom or 1/100,000,000 cm. is usually chosen as a unit. The wave length of yellow light from sodium vapor is about 6,000 of these units, while roentgen ray wave lengths would be expressed by fractions of an Aengstrom. Thus we have the diameter of a hair, 0.002 cm.; wave length of yellow light, 0.00006 cm.; medium roentgen-ray wave length, 0.000000005 cm. Multiplying these fractions by 10 nine times, we have: roentgen-ray wave length, 5; yellow light wave length, 60,000; diameter of hair, 2,000,000. So that the hair could contain four hundred thousand of these roentgen-ray wave lengths in its own diameter.

It is, then, clear that these waves are of exceeding "finesse of grain," if we may use a common term. The distance between atoms in crystals of metals is from 2 to 4 Aengstroms, so that such atoms are separated by a distance equal to several wave lengths of roentgen rays such as are commonly used. It may readily be seen how the behavior of such waves would be differently affected by matter than would long ones.

The origination of such minute waves is due to disturbance of electrons. These consist of, or else carry at all times, a definite electric charge. They are essential elements in the structure of all atoms, and may be torn out of any atom by suitable physical agencies. They are much smaller than the atoms of any known element. If we could magnify sufficiently both electrons and the surface of polished metal, the irregularities of the surface would appear like mountains and valleys, while the electrons would be almost too small to be seen. For our purpose only two means of separation of electrons from matter need be mentioned: these are (1) the breakdown of gas molecules in a vacuum tube, (2) their shaking out from the atoms of a very hot metal. The first serves for the operation of the older type of gas tube, the second is used in the Coolidge tube.

CONDITIONS NECESSARY TO PRODUCE RAYS

The condition under which these minute electrical bodies produce the rays is fairly simple, namely, during the time of starting or stopping electrons are sources of gamma or of roentgen rays. In just what manner this results we may not know, but we have indisputable evidence of this origin of the rays. Again let us use the crude analogy of the tense string; imagine that a wave travels along the string at the rate of 10 feet per second, and that a moving body acts for two seconds
at one point, the wave started at the instant of impact and the initial disturbance moves along the string without reference to whether the disturbance was continued or not, so that when the two second disturbance is completed a portion of string 20 feet long will be in action and will constitute one wave length.

We have a great variety of experiments showing that only when the velocity of electrons is suddenly changed do we get the short electromagnetic waves known as gamma rays or roentgen rays. The former are due to the sudden starting of electrons by the explosive breakdown of atoms, the latter to the reduction of velocity by impact on an obstacle.

In Figure 1, imagine an electron moving toward the rough surface at $P$, its speed will be somewhat altered at this impact, and it may be

![Diagram](image-url)

Fig. 1.—The possible course of an electron striking a polished metal target and deflected several times before coming to rest; path, $P-Q-R-S$, etc. A different wave length may be originated at each impact. Also possible central impact at $D$ giving a single wave length.

deflected to $Q$ and then to $R$. During each contact or period of change in velocity a roentgen ray will be originated. Thus, a group of these rays may be started by a single electron. On the other hand, direct impact, as at $D$, would set up a single wave of greater energy for the same initial electron speed than in the previous case. The irregularities of a highly polished metal surface are doubtless much greater than those shown in comparison with the diameter of an electron.

In the operation of a roentgen-ray tube, electrons in enormous numbers are separated from atoms and by reason of their electric charges are given almost unbelievable speed and strike the hard metallic surface of the anode or target with the result described above. For a
target of given material (tungsten is now almost exclusively used), only two operating factors need concern the therapeutist. The nature and the quantity of radiation is absolutely fixed by the number of electrons used per second and their striking speed. Fortunately, we neither need to count them nor actually to measure their speed. A properly calibrated milliammeter tells the relative number of electrons, and the electric difficulty of driving them through the tube indicates their speed. The latter might be measured by suitable electric instruments (volt meters) or spark gap meters, but those hitherto provided are not generally reliable, so we offer the electric stream an opportunity to pass around the tube between two adjustable points constituting a spark gap.

Thus a tube carrying 5 milliamperes under conditions such that it is about equally difficult for the discharge to pass through the tube as through 5 inches of air between needle points is furnishing each second a definite amount of radiation of specific quality.

**MEASUREMENT OF RAYS**

We may now consider what meaning should be attached to the terms quantity and quality. Since we have no special sense organs that enable us to see by roentgen ray brightness or recognize anything comparable to color in light, we must derive our information in other ways. The quantity of light from a given source might be found by allowing it to be transformed into heat and measuring the latter, but we should find that such a measure would not be comparable with that made by using some other effect due to light.

Thus, an amount of red light giving, when transformed, a definite amount of heat would produce far less effect on the eye than would green light of the same heat equivalent and the action of red light on a photographic plate would be nothing as compared to that of its heat equivalent in violet light.

The following effects due to roentgen rays have been used as a measure: (1) The photographic effect; (2) color change in certain chemicals; (3) separation of electrons from atoms (ionization) (photo electric action, etc.), and (4) heat produced when absorbed. But as in the case of light the results of such measurements are not always comparable. At present even the radiation from light sources is measured by observing the factors governing production. Thus an incandescent lamp of 20 candlepower is of that power only when operated at a given voltage, so that it carries a specific current. We may well come to measure roentgen rays in the same terms.

In order to study completely light from a given source, we find it necessary to sort out the separate wave lengths and to study each wave length alone as the ability of these various waves to cause cer-
taint effects vary widely with wave length. Thus, as noted above, the long waves (red light) are most effective in heat production, shorter ones are more vigorous in chemical action, etc. One way of sorting out the various waves is to pass the light through or reflect it from a glass plate on which many regularly spaced fine lines have been ruled (diffraction granting). This will cause the red light to proceed in a direction different from the green, etc. On account of the extremely short wave length of roentgen rays, a polished glass surface is too rough, and our finest lines are too coarse to permit ruling such a grating for these rays; but in crystals we have an arrangement of atoms in planes making an equivalent grating by means of which a roentgen-ray spectrum may be studied.

Such analyses of the roentgen-ray output of a tube has been made at various operating voltages (spark gaps) as shown in Figure 2.

Distances from the horizontal base line indicate ability of the radiation to cause a certain physical change or roughly the roentgen-ray energy, while distances along this base line are roentgen-ray wave lengths in Angstroms or $10^{-8}$ cm. Each curve of Figure 2 shows the distribution of roentgen rays among the wave lengths present for a single operating voltage (spark gap).

Three important points stand out clearly from these curves: (1) The energy of all wave lengths present in any low voltage curve is much increased when the voltage is raised. (2) Raising voltage adds short waves not present at lower voltages. (3) The wave length for which the energy is a maximum is shorter at the higher voltages. It should be clearly noted that any change in current at a fixed voltage would not alter the shape of the spectrum curves.

Since the radiation at 40,000 volts contains waves not present at 30,000 volts, and the distribution of energy among those wave lengths common to both is different in the two cases, we say that the quality of the rays is different when the tube is operated at different voltages.

One should not lose sight of the fact that these spectra are not accidental; the distribution shown for 40,000 volts is characteristic of that voltage and of no other. Hence when we reproduce current and voltage of operation of a roentgen-ray tube we reproduce both the quantity of radiation per second and its quality.

Note again the analogy with light. We do not measure light directly, but we specify the voltage at which a given lamp must be run for say 16 candlepower, and as the lamp takes a definite current at this voltage it is comparable to our roentgen-ray tube.

The emitted radiation spreads in a hemisphere from a small area on the target on which most of the electrons impinge. One should clearly understand the flow of radiation outward with the gradual reduction of action on equal areas exposed. Roentgen rays travel in
straight lines from the source (except as scattered. See below). If in Figure 3 the area $A B C D$ receives a certain energy per second from the target, omitting scattering or absorption, the energy received by $A B C D$ would be spread over $I J K L$ on the more distant plane, but these areas are in direct proportion to the squares of their distances from $F$. Thus the action of every wave length and of all waves on a receiving body decreases for a given receiving area as the square of the distance increases. Thus, if 1 square cm. of skin at 10 inches from the target would receive in a given time $Q$ units of radiation, one 11

![Graph](image_url)

Fig. 2.—Vertical lines show roentgen-ray intensity in arbitrary units. Horizontal lines show roentgen-ray wave lengths in Angstroms ($10^{-8}$ cm.). Operating voltages: (1) 40,000 volts, (2) 35,000 volts, (3) 30,000 volts, (4) 25,000 volts, (5) 20,000 volts; measurements by Dr. Hull.
inches away would receive $\frac{100}{121} Q$. The curve in Figure 4 shows how the surface radiation varies at distances commonly used in therapy. Figure 5 and Table 2 show how exposure times vary for various distances when one must, for any reason, vary from their usual working distance.

**TABLE 2.—NUMBER OF MINUTES AND SECONDS REQUIRED TO GIVE EQUAL DOSAGE AT VARIOUS DISTANCES RELATIVE TO THE STANDARD CHOSEN**

<table>
<thead>
<tr>
<th>Inches</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>0 00</td>
<td>0 43</td>
<td>0 33</td>
<td>0 27</td>
<td>0 21</td>
<td>0 17</td>
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<td>0 12</td>
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<tr>
<td>7</td>
<td>1 21</td>
<td>1 60</td>
<td>0 45</td>
<td>0 36</td>
<td>0 29</td>
<td>0 24</td>
<td>0 20</td>
<td>0 17</td>
</tr>
<tr>
<td>8</td>
<td>1 45</td>
<td>1 18</td>
<td>1 00</td>
<td>0 47</td>
<td>0 38</td>
<td>0 31</td>
<td>0 26</td>
<td>0 23</td>
</tr>
<tr>
<td>9</td>
<td>2 15</td>
<td>1 22</td>
<td>1 16</td>
<td>1 00</td>
<td>0 49</td>
<td>0 40</td>
<td>0 33</td>
<td>0 29</td>
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<tr>
<td>10</td>
<td>2 46</td>
<td>2 33</td>
<td>1 33</td>
<td>1 15</td>
<td>1 00</td>
<td>0 49</td>
<td>0 41</td>
<td>0 35</td>
</tr>
<tr>
<td>11</td>
<td>3 21</td>
<td>2 27</td>
<td>1 53</td>
<td>1 30</td>
<td>1 12</td>
<td>1 00</td>
<td>0 50</td>
<td>0 43</td>
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<tr>
<td>12</td>
<td>3 56</td>
<td>3 03</td>
<td>2 15</td>
<td>1 46</td>
<td>1 26</td>
<td>1 11</td>
<td>1 00</td>
<td>0 51</td>
</tr>
<tr>
<td>13</td>
<td>4 42</td>
<td>4 38</td>
<td>2 33</td>
<td>1 24</td>
<td>1 01</td>
<td>1 01</td>
<td>1 00</td>
<td>0 60</td>
</tr>
<tr>
<td>14</td>
<td>5 37</td>
<td>4 00</td>
<td>3 33</td>
<td>2 25</td>
<td>1 57</td>
<td>1 27</td>
<td>1 21</td>
<td>1 00</td>
</tr>
</tbody>
</table>

If 8 is the usual or standard distance, look for 8 at the top of the table. To get an equivalent dose at 6 inches, use 33 seconds for each minute at 8 inches. At 11 inches use 1 minute 53 seconds for each minute at 8 inches, etc.

The practitioner may well note that when he attempts to work with the tube too close, errors in measuring the distance from the focal area on the target to the glass wall and from glass to patient may become very important. Thus if one made an error of one-half inch when working at a supposed 12-inch distance the error is very nearly twelve parts in 144, while if supposed to be at 7 inches and it is actually at 7.5 the error is 7 in 49 approximately, or $\frac{1}{7}$ instead of $\frac{1}{12}$ as in the former case.

**REDUCTION OF INTENSITY OF RAYS**

The next important point to be considered relates to the reduction of intensity when these rays pass into or through various materials. Before the discovery of the method of spectral analysis all our information was derived from more or less uncertain measurements of absorption.

The term absorption is used to denote a simple reduction in wave energy due to some action on the material through which the wave moves. Thus, if we pass a beam of light into clear water there will be a loss of illuminating power not explained by reduction due to increased distance from the source. This results in a rise in the temperature of the water showing a transformation of a portion of the energy of short light waves into heat. Again, loss of light might result in chemical action. So in the case of roentgen rays, if in Figure 3 the energy passing through $IJKL$ is less than that passing $ABC\!D$ we say there
has been absorption in the intervening material. It is not so easy to say just what form the transformed energy has taken in this case, but a very small amount of heat is produced and ionization, electro-chemical action or the production of long wave light rays in the absorbing body must account for the remainder.

As in the case of light, absorption depends on the material traversed and for a given material is dependent on the wave lengths received.

Fig. 3.—F, focal spot on target; A B C D, an area receiving radiation; I J K L would receive the same radiation at the greater distance from F that A B C D receives at the nearer. Hence an equal area at the greater distance receives less, i.e., E F G H receives less radiation than A B C D. Note that each area of the rectangular prism A G, as we go down, receives less radiation because rays entering the prism above pass out through its lateral walls. As the target is moved farther away the rays become more nearly parallel to the edges A E, and less radiation leaves through the sides of the prism.
One of the most striking characteristics of the roentgen and gamma rays is their penetrating power, i.e., their relatively slight absorption, many substances highly opaque to light or heat showing extreme transparency. Also this is found to vary according to the voltage (spark gap) at which the tube is operated. The term penetration was used to describe roughly this general quality of the radiation and has proved a rather unfortunate concept. For while increased spark gap does raise the "penetration" by adding shorter and less easily absorbed waves, it also greatly increases the amount of radiation per milliam-

Fig. 4.—If a surface 6 inches from the target receives in a given time 100 units of radiation, surfaces of equal area at points more remote will receive the amounts indicated. Thus one at 10 inches will receive 36 units for every hundred received at 6 inches.
pere, and after we reach a moderate gap the increase of "penetration" is relatively slight.

If we first consider a single wave length for the sake of simplicity we may state the known facts as to absorption: 1. The intensity is reduced in passing through a given thickness of material nearly in proportion to the physical density of the material. (Some variations are noted and "scattering" must also be considered). 2. If at the first

Fig. 5.—Curves showing relative times required to give equal dosage at various distances. The line $AB$ is taken as a base line for reference. The curve marked 6 means that taking 6 inches as the normal working target plate distance if we change to 7 inches then for every minute exposure at a target distance of 6 inches we must expose 1 minute 21 seconds at 7 inches, 2 minutes, 45 seconds at 10 inches, etc. If the usual distance chosen is 10 inches and one wishes to repeat the dose but at 8 inches, then for 1 minute at 10 inches (Curve 10) 39 seconds will be needed at 8 inches, etc.
surface of a layer of thickness, \( t \), the intensity is \( Q_1 \) and at the distal surface it is \( Q_2 \), then the quantity \( \frac{Q_1 - Q_2}{Q_1} \) represents the percentage absorbed in the layer. 3. The next layer of like thickness will absorb the same fraction of what its proximal surface receives, and this will be true for each layer in succession (observe the limitation to a single wave length).

Thus, if a layer 1 mm. thick of a given material will absorb 0.04 of the radiation received of a given wave length and 100 arbitrary units fall on the surface of a block of this material, the amount passing successive layers each 1 mm. thick will be:

First surface .................................. 100
1 mm. below .................................. 96,
2 mm. ........................................ 92.16
3 mm. ........................................ 88.47
4 mm. ........................................ 84.93
5 mm. ........................................ 81.53, etc.

Each number being obtained by multiplying the preceding by 0.96. The amounts absorbed by the several millimeter layers are

1. ........................................ 4 units
2. ........................................ 3.54 units
3. ........................................ 3.69 units
4. ........................................ 3.54 units
5. ........................................ 3.40 units, etc.

Assuming that the source is so far away that we may neglect an increase of distance up to 5 mm.

For this same absorbing material and a longer wave length the first millimeter may remove 0.1 of the surface radiation. Then the series for 100 units on the proximal surface will be:

First surface ..........100  Left in first mm........10
1 mm. below ........... 90  Left in second mm........ 9
2 mm. below ........... 81  Left in third mm........ 8.1
3 mm. below ........... 72.9  Left in fourth mm........ 7.29
4 mm. below ........... 65.61 Left in fifth mm........ 6.56, etc.
5 mm. below ........... 59.05

Observe now that 5 mm. in the first case have absorbed only 18.17 units, while in the latter 40.95 units are absorbed. Also we must note that the ratio of absorption in the first millimeter to that in the fifth is quite different, 4 : 3.4 and 10 : 6.56 or 1.17 and 1.52 in the two cases.

We see then that the higher the rate of absorption of the material for the wave length considered, the more the first layers absorb and the greater the difference between that absorbed in the first millimeter and that in any given millimeter below the first.
The actual output of the tube always contains a great variety of wave lengths, and each wave length has its own rate of absorption, but the rate is always less for short than for long waves. Figure 6 shows the effect of 3 mm. of aluminum on the radiation at 70,000 volts (about a 6-inch gap) as measured by Hull. We see that no rays of wave length exceeding $0.7 \times 10^{-8}$ get through. Also the intensity of wave length $0.5 \times 10^{-8}$ is reduced from 50 units to 14, $0.4 \times 10^{-8}$ from 100 to 80. Or the transmissions in percentages of initial quantities are:

<table>
<thead>
<tr>
<th>Wave Length</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.5 \times 10^{-8}$</td>
<td>28</td>
</tr>
<tr>
<td>$0.4 \times 10^{-8}$</td>
<td>50</td>
</tr>
<tr>
<td>$0.3 \times 10^{-8}$</td>
<td>80</td>
</tr>
</tbody>
</table>

The percentages absorbed are:

<table>
<thead>
<tr>
<th>Wave Length</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.5 \times 10^{-8}$</td>
<td>72</td>
</tr>
<tr>
<td>$0.4 \times 10^{-8}$</td>
<td>50</td>
</tr>
<tr>
<td>$0.3 \times 10^{-8}$</td>
<td>20</td>
</tr>
</tbody>
</table>

The 3 cm. of aluminum absorb for this voltage very nearly one-half of the total radiation, but take their toll largely from the longer wave lengths.

To emphasize this matter still further, consider Hull's spectrum curves at 40,000 volts and at 30,000 volts and apply the same percentage reduction by 3 cm. of aluminum for the same wave lengths as in his 70,000 volt curve as far as they are present at these voltages. Figure 7 shows the results. The area under $A$ is proportional to the unfiltered radiation, that under $A'$ to the filtered radiation for 40,000 volts. $B$ and $B'$ are the same for 30,000.

We may definitely say from these results that: 1. The total radiation from a tube operated at low voltage is less than for one operated at the same current at high voltage. 2. The energy from the low voltage tube is more easily absorbed. 3. The proportion absorbed in the first layers is much greater at low voltage than at high.

But the therapeutist may well be excused if he asks, "What has the results of absorption in aluminum to do with the biologic action of these rays?" The answer is plain if we assume (what seems almost an axiom to the physicist) that the biologic action is entirely due to that part of the radiation actually absorbed. 1 This granted, we may at

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1. In asserting that the biologic action is due to rays absorbed, one must keep in mind that definite action may occur in regions more or less remote from the area in which absorption takes place. The processes of cell destruction and repair are subject to modification in so many ways that it is quite possible that minute changes in secretion and the fluids of circulation may occur when the rays are absorbed and thus produce changes in relatively remote tissue. In other words, the effect on the organic machine must be considered as a whole, and while the initial impetus may be due to absorbed radiation, the systemic effects may be widespread and important.
once call attention to the fact that the general distribution of absorbed radiation in successive layers for a given wave length is similar for all substances, differing only in the thickness of layer required to absorb a specific percentage. Thus, a thickness of human flesh could be found absorbing a given wave length in nearly the same ratio as 1, 2 or 3 mm. of aluminum. In other words, the distribution of the absorbed radiation will be governed by the same general considerations

Fig. 6.—Solid line, A, shows roentgen-ray intensity of various wave lengths for a tungsten target tube operated at 70,000 volts. The broken line shows what survives after passing through 3 mm. of aluminum. About 50 per cent. of the 70,000 volt radiation is absorbed by 3 mm. of aluminum; measurements by Dr. Hull.
as given above, but it will require greater thicknesses of flesh than of aluminum to absorb a given percentage.

The term filter has been applied to any material used between the tube and the patient's skin. The purpose of the filter is to remove a large part of the radiation that would otherwise be absorbed by the superficial layers of flesh. They are necessary and important for the treatment of nonsuperficial lesions, but in the judgment of the writer they are of little demonstrated value in superficial therapy. It may also be noted that as the rays have passed through the glass wall of the tube they are already in part filtered. On account of the low density of air, both its absorption and its filtering action may be neglected in practice.

Fig. 7.—Curve A shows amount of radiation at 40,000 volts unfiltered. A' shows reduction by using 3 mm. of aluminum as a filter. B and B' show the same for 30,000 volts.
Some difficulty is experienced by many readers as to the significance of the term "secondary" rays, and in fact the term has been used to specify at least three different things, for which other terms might better be used:

1. Roentgen rays coming from parts of the tube other than the focal spot; these may be better designated as parasitic rays.

2. Atoms of matter reflect roentgen rays slightly just as particles of dust or mist will reflect light. This results in a slight diffuse scattering of the initial beam without other change. If we could secure a surface made up of a closely packed layer of completely reflecting atoms we would have a roentgen-ray mirror. As there are no such atoms or any surface of such smoothness and compactness we have only scattering.

3. Also when roentgen rays of sufficiently short wave length (due to proper high voltage operation) strike certain atoms, the original beam may give rise to a new beam whose quality depends on the atomic weight of the affected atoms. These are true characteristic secondary rays. They interest the therapeutist in some cases. If thin metal filters are close to the skin and receive enough roentgen rays of short wave length, the characteristic easily absorbed long wave length radiation may injure the skin. Also when metallic ointments or medication are present in the tissue the true characteristic may give undesired results.

**SUMMARY**

The general facts stated above may be summarized for application thus:

1. The electrical conditions of operation fix absolutely the radiation delivered per second by a given target; hence adequate control of these conditions will enable complete duplication of radiation both in amount and quality.

2. The two factors to be noted are: (a) Spark gap or tube voltage; (b) current in milliamperes. Of these, the former is by far the more important.

3. The amount received by a given layer of tissue when the tube is operated for a definite time under prescribed electric conditions depends on two things: (a) The distance from the target; (b) the nature and thickness of all material through which the rays have passed before reaching the tissue treated.

4. The reaction to roentgen rays by living tissue is due to rays absorbed.

5. There is no evidence at present that the biologic effect depends on the particular wave lengths absorbed.
6. The biologic effect doubtless depends not only on the total amount absorbed, but to some extent on the rate of absorption; in other words, on the frequency of treatment as well as on the quantity of radiation.

7. Layers of tissue near the surface of entrance always receive and absorb more radiation than the deeper layers.

8. The inequality of absorption between deep and surface layers due to decrease of intensity with distance is reduced by increasing the distance of the tube from the skin.

9. The inequality of dose between different layers is reduced by the use of filters.

10. This inequality is also reduced by operating at a moderately high voltage.

Assuming that one desires to limit the effect as far as possible to a thin surface layer, these facts would indicate a tube fairly close to the skin, operating at rather low gap and without filter. On the other hand, if one wishes to minimize the skin effect and secure more absorption in the deeper layers, the reverse would be true within reasonable limits, namely, greater target skin distance, higher spark gap and filtration.

Suppose now we attempt to measure the surface radiation. This can only be done by using some device to absorb all or part of the rays and show some observable change due to this absorption. Only a few such absorbers have been found, such as a photographic film or a layer of platinobarium cyanid crystals. Unfortunately these indicators are troublesome for two chief reasons: 1. they absorb a different percentage of the total radiation for different voltages. 2. Successive equal amounts of radiation absorbed do not give equal changes in the indicator. There is, then, no definite connection between their reading and the amount of radiation absorbed by the various layers. It is not within the scope of this article to discuss this matter further; we can merely point out the difficulty.

CONCLUSION

The author believes that the physical side of this work and the apparatus should be developed to such a point that the therapeutist need have no doubt of his dosage and will not have to depend on any of the pastille or photographic methods of measurement. This will require cooperation and training, but would be amply rewarded by the increased usefulness and more extended application of this therapeutic agent.

Cornell University.
Obituary

WILLIAM S. GOTTHEIL. 1859-1920.

The sudden death of Dr. William S. Gottheil came as a shock to American dermatologists. Without previous warning or illness he was stricken down when apparently in the best of health, full of vigor and with energy to practice his chosen field of medicine for many years.

William Samuel Gottheil was born Feb. 5, 1859, in Berlin, Germany. His father was the late Rabbi Gustave Gottheil, and his mother, Rosalie Wollman. He received his early education at the Chorlton High School (Victoria University) in Manchester, England. In 1870 he came to this country and later attended New York University for a short time. In 1878 he received the degree of A.B. from Cornell. In 1881 he graduated from the New York College of Physicians and Surgeons, and from October, 1881, to April 1883, served an internship at the City, then called Charity, Hospital. From 1885 to 1888 he lectured on dermatology at the New York School of Clinical Medicine. In 1907 he was appointed adjunct professor of dermatology at the Post-Graduate Hospital, retaining this position until 1912, when he was appointed professor of dermatology at Fordham University. This chair he held until his untimely death. He was attending dermatologist at Lebanon Hospital and the City Hospital; consulting dermatologist to Beth Israel and Rockaway Beach hospitals, and to the Hospital for Deformities and Joint Diseases.

In 1898 he and several other dermatologists founded the Manhattan Dermatological Society, of which he became president in 1899. He attended almost every meeting of this Society from its inception until his death.

Dr. Gottheil was an artist. At the time of his death he had the largest collection of moulage of dermatoses to be found in this country, each one an excellent reproduction of the original disease. All were of his own workmanship.

He was a prolific writer and contributed a great deal to dermatologic literature. He was the author of an illustrated atlas, and his last work was a stereopticon set of rare dermatoses.

His name is intimately connected with the use of autoserum, and of solid carbon dioxide in dermatology. He was probably the first to advocate and use the insoluble instead of the soluble salts of mercury, and he was active in bringing mercury salicylate to prominence in treat-
ment. Dr. Gottheil was ever mindful of the needs of the general practitioner. Among the first to see the injustice of the proposed health insurance bill, he fought it bitterly and brought his arguments before medical societies so forcefully that at the present time almost the entire medical profession is arraigned against it.

He had an amiable disposition; he was kind to patients and especially to those who assisted him and with whom he was associated in hospital and dispensary work. His advice, which was always guardedly given, was good, sound, solid and sensible. Dr. Gottheil has gone, but his memory will ever be cherished by those whose privileges it was to have had him as a friend and teacher.

B. F. O.
Correspondence

CLEARING HOUSE FOR CUTANEOUS FUNGI AND BLASTOMYCSES *

To the Editor:—The editorial in the April number of the Archives in regard to the “study of ringworm in America” has struck a responsive chord in the staff of this laboratory. It is most timely and likely also to stimulate others who have been prying into the edges of mycology, but who have received no encouragement because the importance of the subject did not appear to be as generally appreciated as it should be, and because they felt comparatively isolated in their work. The end-effect under these circumstances would be a decreasing interest in, and finally a cessation of, such investigation in many cases. We welcome the editorial, therefore, as calculated to reveal and focus these scattered activities in mycology and to open avenues of communication between them that will encourage and sustain the work in each center.

The main purpose of this communication is to announce that this laboratory has been working along these lines and will cooperate with others (it is hoped many) in the study of cutaneous fungi. This course has, as a matter of fact, been in our minds for over two years and has produced some small results, which we would like to contribute at this time as a beginning in the movement and as an earnest of our desire to cooperate in it, but which on account of their scope must be postponed to some future time.

We have acquired the following organisms from various sources and have living cultures at present on hand. Some we have cultivated ourselves and others have been donated. Among others, Professor Sabouraud, with whom we have an exchange agreement, has contributed a number: Achorion schonleini, two strains; Achorion gallinae: Achorion quinckeanaum; Microsporon lanosum; Microsporon audouini, two strains; Microsporon fulvum; Trichophyton nizemum radians; Trichophyton rosaceum; Trichophyton plicatile; Trichophyton fumatum; Trichophyton gypseum; Epidermophyton inguinale, nine strains; Sporotrichum schencki-beurmanni; Sporotrichum councilmani; Sporotrichum humberger and several animal strains; Actinomyces bovis; Penicillium brevicaule (Brumpt and Langeron).

While this list does not appear long in print, it is an ample one for the study of general mycology, and is doubtless larger than any other in this country. Professor Sabouraud tells me that he has sent as many cultures as he has on hand and will forward others as they come in, so that the list is likely to become notably lengthened. The first task indicated in the editorial, namely, the building up of a collection, has thus at least been started here, and we will be glad to undertake the second task, namely, to receive cultures, keep them going and supply subcultures on application. We do not feel in the position at present, however, to identify all organisms in scrapings, hairs, etc., that might be sent to us, as we might be overwhelmed with work and forced to recant.

* Address communications to Laboratory of Dermatological Research, University of Pennsylvania, Philadelphia.
As stated before, we should at this time like to call attention to a number of technical points which have halted our progress, and which might save much time and annoyance to others who may be stimulated by the editorial, for the first time to undertake this work, but that is beyond the scope of this note, and will be reserved for a communication to be made in the near future. Suffice it to emphasize the editorial's admonition to comply with Sabouraud's recommendations. Let this book be a guide, not only in regard to ingredients of mediums but also of containers. Unless this is done, we shall all be working at cross purposes, and mycology—certainly cutaneous mycology—will not properly advance.

Fred D. Weidman, M.D., Philadelphia.

WHITFIELD'S OINTMENT

To the Editor:—I was somewhat surprised to see, in a discussion on tinea cruris in the February issue of the Archives, page 225, the opinion stated that Whitfield's ointment was in action a salicylic acid ointment and that the benzoic acid was inactive. The observers said the salicylic acid alone was effective, and apparently based their opinions on its use without the addition of benzoic acid.

I have not claimed that the formula used by me was the most powerful possible, but merely that it was on the whole effective and certainly cleanly. My first experiments were carried out with 5 per cent. benzoic acid, without salicylic acid and I found, as I think other observers will also find, that in tinea of parts supplied with a thin horny layer the eruption disappeared in four or five days. The salicylic acid was afterward added, especially for the tinea of the toes and fingers, with a view to furthering penetration of the benzoic acid. Strong salicylic acid is undoubtedly beneficial but the 3 per cent. strength contained in my formula is much too weak to be effective in severe cases.

In conclusion, I do not share the optimistic opinion that "Dhobi itch" is easily curable by salicylic acid ointments of any strength. The disease in the feet is common in this country now, and some of my patients have had a relapse after being treated for a year with chrysarobin, strong salicylic acid. My ointment in double strength, strong solutions of cresol and iodin mixed and copper salts deposited by means of the galvanic current.

I am constantly searching for an application which will reach the mold through the thick horny layer of the foot and hand but so far I have not had complete success.

Abstracts from Current Literature


A study and detailed report of 537 cases from the Mayo clinic is given with these points of interest:

1. The 537 cases of squamous-cell epithelioma of the lip in this series represent 26.85 per cent. of 2,000 cases of general epithelioma.

2. Squamous-cell epithelioma of the lip occurs more often in males than in females; the proportion is 49:1. It occurs in patients past middle life; their average age is 57.3 years.

3. The disease occurs most often in farmers; they represent 56.7 per cent. of the cases.

4. A family history of malignancy plays a negligible part.

5. The site of the cancer was preceded by a sore or an ulcer in 63.3 per cent. of the cases.

6. About one fifth of all the patients do not use tobacco, while one half of the female patients do not use it.

7. Of the patients using tobacco, 93.33 per cent. smoke; 78.48 per cent. of these use a pipe.

8. A comparison of 500 men without epithelioma of the lip with the 537 patients with epithelioma of the lip shows that the percentage of tobacco users and nontobacco users is practically the same; 78.6 per cent. users and 21.4 per cent. nonusers in the former group, and 80.49 per cent. users and 19.51 per cent. nonusers in the latter group, but that the average age of the men without epithelioma of the lip is about nineteen years less than the average age of the patients with epithelioma of the lip at the onset.

9. The most remarkable difference in a comparison of the patients with epithelioma of the lip and the men without epithelioma of the lip is in the method of smoking. The total number of pipe smokers in the former is 78.48 per cent. and the total number of cigaret smokers is only 1.16 per cent., while in the latter the total number of pipe smokers has dropped to 38.03 per cent. and the total number of cigaret smokers has risen to 59.04 per cent.

10. A history of injury plays a negligible part.

11. The duration of the lesion shows a marked variation from 0.08 years to 28 years, with an average of 2.58 years.

12. The greatest diameter of any lesion is 12.5 cm.; the average 2.4 cm.

13. The lesion originated on the lower lip in 95.69 per cent. of the cases, on the upper lip in 3.55 per cent., at the left angle of the mouth in 0.56 per cent., and at the right angle of the mouth in 0.18 per cent.

14. Twenty-nine and five hundredths per cent. of the patients were treated with acid, paste or plaster, etc., before they entered the clinic.

15. Seventeen and eighty-seven hundredths per cent. of the patients were operated on before they entered the clinic.

16. Ninety-six and eight hundredths per cent. of the patients were operated on at the clinic.
17. In 87.01 per cent., the regional lymph nodes were removed.

18. Of the 449 cases in which the lymph nodes or salivary glands were removed, metastasis was demonstrated in 23.38 per cent.; the submaxillary lymph nodes were involved in 87.61 per cent., the submaxillary salivary glands in 21.90 per cent.; the submental lymph nodes in 24.76 per cent., and the cervical lymph nodes in 24.76 per cent.

19. In a division of the epitheliomas according to cellular activity, on a basis of 1 to 4, Grade 1 represents 15.82 per cent.; Grade 2, 62.01 per cent.; Grade 3, 21.04 per cent. and Grade 4, 1.11 per cent.

20. The average duration of the lesion according to grade is longest in Grade 3, 3.33 years, and shortest in Grade 4, 1.29 years.

21. The average size of the lesion according to grade is largest in Grade 3, and smallest in Grade 1.

22. Of the patients operated on and traced, 40.52 per cent. are dead and 59.47 per cent. are alive.

23. Of the living patients 92.85 per cent. report a good result, having been free from disease on an average of 7.76 years.

24. Of the patients operated on who have died, concerning whom information has been received, 63.63 per cent. died from epithelioma.

25. Eight, or 1.55 per cent., of the patients who were operated on died in the clinic, while the actual operative mortality was only 0.77 per cent.

26. The users of tobacco who were operated on did not obtain quite so good total good results as the nontobacco users: 78.14 per cent. in the former, and 86 per cent. in the latter.

27. In the inoperable cases, the nontobacco users reached as high as 30.76 per cent.

28. The patients who were treated with pastes, plasters, etc., before entering the clinic did not get such good total results as those who were not so treated: 62.06 per cent. in the former and 77.08 per cent. in the latter; moreover, 31.91 per cent. of the former who were operated on had metastasis, while only 19.48 per cent. of the latter operated on had metastasis.

29. Of the patients with metastasis, 17.39 per cent. are living and 82.6 per cent are dead.

30. Of the living who had metastasis, 83.33 per cent. report a good result. In these patients the submaxillary lymph nodes on only one side were involved.

31. No patient with the cervical nodes or more than one group of any lymph nodes involved has been reported living.

32. Of the patients reported dead who had metastasis, 91.66 per cent. died from epithelioma.

33. If a patient has the submaxillary lymph nodes on one side only involved, he has a 1 to 3 chance of getting a good result, and will be living and well on an average of 6.18 years after operation.

34. Of the patients operated on in whom no metastasis was demonstrated 76.26 per cent. are living, and 23.73 per cent. are dead; of the living, 92.71 per cent. report a good result.

35. The average duration of the lesion in the patients with metastasis is 3.27 years, as compared with 2.40 years in those without metastasis; the average size of the lesion is 3.74 cm. in the patients with metastasis, as compared with 2.01 cm. in those without metastasis.

Waugh, Chicago.
ABSTRACTS FROM CURRENT LITERATURE

EARLY NERVOUS SYPHILIS AFTER ARSENOBENZENE. J. E. R. McDonagh, Brit. J. Dermat. & Syph. 32:29 (Feb.) 1920.

In this article McDonagh expresses his views on phases of nervous syphilis, and some of these views, as usual with him, are original. Leaving out of consideration cases of true metallic central and peripheral neuritis, he puts the cases that he describes into two groups: (1) vascular cases and (2) meningeal cases. As all the patients had entered the generalization stage before treatment was commenced, no case in the primary stage having been encountered, we may reasonably assume that both the disease and treatment played a part in the nervous manifestations produced. Paresis of the facial nerve was the earliest manifestation. For various reasons it is impossible to be certain whether the lesion is primarily neuritic or primarily meningeal. Treatment should not be stopped; on the contrary, it should be energetically pursued. The paresis that appears in untreated syphilis is less common than paresis of the eighth and second nerves, and it responds more slowly to treatment.

Paresis of the eighth and second nerves was more common formerly than now. When it was the rule to prescribe only two injections of arsenobenzene the lesion, which was almost invariably meningeal in origin, occurred some weeks after the last injection, and was most prone to affect those patients with that well-known form of infiltrated papular rash which is so stubborn to treatment. Paresis of these two cranial nerves when encountered now generally signifies a widespread cerebrospinal meningitis. The paretic symptoms form, as a rule, only part of the picture presented, and appear most frequently between the twelfth and twenty-fourth week after the last injection of arsenobenzene. There may be a primary neuritis of the eighth and second cranial nerves, but the lesion is an extremely rare one.

Hemorrhagic encephalitis usually ends fatally on the third day following the second or third injection of arsenobenzene. The lesion, in the author's opinion, is of the nature of a reactionary inflammation caused by the death of the parasites. The sudden death of a large number of parasites brings about a liberation of toxin which damages the endothelial cells.

There is another form of hemorrhagic encephalitis, which may be designated as late, in contradistinction to the early form just described, which sets in between the first and fourth week after the last injection of arsenobenzene (six to nine injections). Its onset is sudden and invariably terminates fatally, usually within forty-eight hours.

The cause of late hemorrhagic encephalitis is, in the author's opinion, the toxic action of arsenic on the endothelial cells of the vessels attacked, plus, in some cases, a secondary cause which rendered the same a locus minoris resistentiae.

Cases of hemiplegia and paraplegia may be found occurring within a month of the last injection of arsenobenzene of a maximum course. They rarely end fatally. All these cases are, in McDonagh's opinion, due primarily to the toxic action of arsenic on the endothelium of the vessels.

The most important group of all contains the meningitis cases. Meningitis may be so acute as almost to cause sudden death, or it may give rise to signs and symptoms that are only discernible on the closest scrutiny of the patient, or it may only render the cerebrospinal fluid pathologic.

The meningitis is both cerebral and spinal, although the usual predominating symptoms draw more attention to the former; therefore in all cases it
is better to speak of the condition as cerebrospinal meningitis. There is, practically speaking, no nervous sign or symptom that may not be encountered in post-treatment syphilitic cerebrospinal meningitis, which makes a short description of the condition difficult. The three most important symptoms are: headache, insomnia and amnesia.

In most cases an examination of the blood is negative, pathologic changes being found in the cerebrospinal fluid only. The cell count may vary from 10 to 2,600 cells per c. mm. The albumin is increased and the globulin often may be. The complement-fixation test may be either positive or negative, according to the intensity and duration of the trouble.

In the prevention and treatment of these various conditions, McDonagh places great reliance on colloidal iodin; he also suggests other therapeutic measures.

SENEAR, Chicago.


Certain species of plants belonging to the rhus or sumac family exert a poisonous action on the skin of persons susceptible to their influence. Since these plants are widely distributed, the authors assert that from the standpoint of health alone more general information on the subject is desirable in order that the public may become better acquainted with the nature of the plants, methods by which they may be recognized and means of preventing toxic effects. A detailed description of poison ivy, poison oak and poison sumac is given. The differential points in identifying the leaves of each variety, the general character of the plants, their flowers and fruit, location and synonymous terms are described minutely.

Nature of the Poison—by Direct or Indirect Contact: The various toxic species of Rhus apparently cause skin irritation by the same toxic principle. The nature of this poison has long been studied; apparently it has now become established that it is an oily principle, called toxicodendrol, which can be extracted from the leaves, roots, flowers, green fruits and in fact from all parts of the plant with the possible exception of the pollen and ripe fruit. Experiments have shown that the most minute quantities of this oil can produce poisoning; consequently, contact of the body with the growth, however slight, may result in the transference to the skin of enough of the poisonous principle to exert its poisonous effects. Direct contact is not necessary as an intermediate object can transfer the poison to the skin: for example, clothing or farm implements which have brushed against the plants may, when handled later, cause poisoning. The possibility of contracting poisoning from horses, dogs or other animals that have come in contact with the plants should not be overlooked.

While there is reason to believe that the nonvolatile toxiodendrol is the sole toxic principle concerned, it was formerly supposed that Rhus poisoning was caused by volatile emanations from the plants, and there is still much diversity of opinion concerning the matter. Numerous attempts to produce poisoning experimentally by emanations from Rhus plants and from the oil itself have been unsuccessful. On the other hand, there is excellent foundation for the popular belief that smoke from the burning plants will give rise to irritation, and some of the most serious cases of Rhus poisoning undoubtedly originate in this manner. Of course, there are varying degrees of susceptibility to the poison. It may be stated that when a large amount of toxin
is deposited on the skin and the person is markedly susceptible the reaction is severe; but if a small amount is deposited and the susceptibility is slight, the reaction is mild—in some cases unnoticeable. The authors discuss the symptoms in detail and state that on the whole the skin eruption resulting from Rhus poisoning does not differ materially from that caused by a number of other irritant poisons such as chemicals like mercuric chloride, arsenic and certain anilin compounds contained in dyes. Identical effects are sometimes produced by urine, pus and other irritating bodily discharges. The seasonal prevalence of the inflammation, the history of exposure and the fact that Rhus poisoning is more common than that caused by other agents, give a clue to the character of the disturbance.

Much can be accomplished for the protection of persons who come in contact with Rhus vines, and also in preventing or lessening the disastrous effects following exposure. Toxic plants can usually be handled with impunity if rubber gloves are worn, provided none of the dust or irritating material comes in contact with the body. Care should be exercised in removing the gloves from the hands, as they will necessarily harbor the toxic material and any contact with the skin is apt to cause trouble. After the gloves have been removed they should be thoroughly washed with soap and water, rinsed several times and laid away. The water in which the infected gloves are washed will contain the poisoning principle; hence it may not be entirely innocuous. As clothing which has come in contact with the leaves may convey the infection for an indefinite period, garments should be changed after exposure, including shoes, which perhaps more often than any other article are a source of indirect contagion. The anointing of the parts to be exposed with cottonseed oil, olive oil or petrolatum is said to serve as a protection.

In the present state of knowledge of the subject it is believed that attempts to confer immunity by the ingestion of leaves or extracts of the plant should be undertaken only under the guidance of a physician. One of the surest and best methods of individual prophylaxis is the use of soap and hot water. It has been found that Rhus poison after being deposited on the skin requires a certain time for penetration, and if this penetration can be prevented, irritation and the resulting eruption will not occur. Hot water and soap act mechanically, and if judiciously used constitute by far not only the most serviceable preventive but also one of the best curative agents that we at present possess. The washing should be done as soon after exposure as possible. If considerable time has elapsed—that is, from twelve to twenty-four hours—this method should still be resorted to so that the portion of material that has not yet penetrated will be removed.

Treatment: Rest in bed in a cool room is essential to rapid recovery. For the eruption itself, scores of remedies, many of which are claimed by their advocates to possess distinctive virtues, if not specific qualities—have been recommended. In spite of these claims it is necessary to state that no specific treatment for Rhus poisoning is yet available.

Waugh, Chicago.


The author has reviewed the records of forty-one cases of epidemic encephalitis, including a small number under his own observation. So much is being written on this subject that it is perhaps well in abstracting to be very brief and selective.
Denéchau considers first the major symptoms: (1) lethargy (hypersonnia), (2) the ocular paralyses, and (3) the infectious state (evidenced by fever, etc.). Regarding the paralysis he quotes Lhermitte, with whom he agrees, that the ocular paralyses are "partial, dissociated, extensopressive and sometimes migratory." The third nerve involvement almost always gives an ophthalmoplegia (partial) externa; however, through internal musculature involvement in one case there were unequal pupils; in another bilateral mydriasis, and in a third that dissociation which is a direct inversion of the Argyll Robertson pupil, namely, abolition of the reflex of accommodation and retention of the light reflex, such an inverse Argyll Robertson as has been seen in botulism and the paralysis of diphtheria.

Of twenty-two cases which were quite fully observed, only six showed seventh nerve involvement. In only one was a hemiplegia noted, though in four other cases the plantar reflex on one side was extension. The writer mentions the occasional implication of the last four cranial nerves. Nor does he omit the features which partake of the Parkinsonian syndrome, including rigidity. Tremor (noted in a third of the cases) has not always been Parkinsonian, but often choreiform or choreo-athetoid. He comments especially on the absence of stiffness of the neck and absence of a Kernig sign. Convulsions were present in one case and sphincteric troubles in thirteen (incontinence in eight and retention in five). He considers sensory changes debatable though trophic and vasomotor phenomena are not unusual. He has seen a certain degree of mental confusion in some cases, also a delirium with marked disorientation. In another affectivity was markedly abnormal and a catatonia, which the patient showed, was attributed to it. The writer has apparently encountered no cases with radicular symptoms and therefore was saved the quagmires of terminology which are now in sight.

No spinal fluid cell counts are recorded. But Denéchau found no increase and he speaks of "the integrity of the spinal fluid."

His brief account of the pathology, as well as speculations regarding the etiology, including the relationship, if any, to influenza, bring out nothing new. He outlines the differential diagnosis between epidemic encephalitis and syphilis, botulism, influenza (with edematous changes in nerve centers), poliomyelitis, and hemorrhagic superior polioencephalitis of Gayet and Wernike. In botulism, the points of interest are the occurrence of several cases at the same time in persons under the same régime, the presence of great thirst and dryness of the mouth and the absence of somnolence. In influenza the symptoms are more abrupt in onset and termination, there is no especial election of the nerve centers of the mesencephalon; the ophthalmoplegia, therefore, is often lacking and pulmonary complications are the rule. Poliomyelitis (superior hemorrhagic) of Gayet and Wernike occurs in alcoholics and is always accompanied by an active delirium and remains afebrile.

Davis, New York.


This is a valuable and interesting report of experiments performed by the authors. A detailed description of the work is given. The conclusions are:

1. All solutions of arsphenamin are hemolytic owing primarily to the direct hemolytic activity of arsphenamin.
2. Solutions of arsphenamin in isotonic saline solution are from three to ten times less hemolytic than solutions in water.

3. The hemolytic activity of solutions of arsphenamin in water and isotonic saline is unavoidably increased by the addition of sodium hydroxid for purposes of neutralization; the addition of an excess of alkali increases hemolytic activity.

4. Concentrated solutions of arsphenamin in water and isotonic saline are more hemolytic than dilute solutions.

5. Neo-arsphenamin is not hemolytic.

6. Dilute solutions of neo-arsphenamin in water, as 0.9 gm. in 90 c.c. or more of water, are hemolytic, owing to hypotonicity of the solution. Concentrated solutions, as 0.9 gm. in 30 c.c. or less of water, are not hemolytic, owing to the presence of sufficient inorganic salts from the drug to render the solution approximately isotonic.

7. To avoid hemolysis in the administration of dilute solutions of neo-arsphenamin, sterile physiologic sodium chloride solution prepared of freshly distilled water should be used; when the concentrated solutions are administered (each 0.1 gm. dissolved in 3 c.c. or less), sterile distilled water may be employed.

8. The degree of hemolysis produced by the administration of arsphenamin may be lessened (a) by using instead of water sterile saline solutions of such strength as to render the solutions isotonic; (b) by avoiding the administration of concentrated solutions; (c) by carefully neutralizing and "clearing" the solution with sodium hydroxid, counting the drops or otherwise measuring the amount necessary, and adding not more than a fifth of this amount in excess, and (d) by giving the injections slowly so as to permit gradual mixing and dilution of the solution with the blood.

Walch, Chicago.


In the first part of this article the author tells us how much more clever the Germans are than other Europeans in handling cases of this disorder. Two types of trichophytosis are recognized. These are distinguished clinically as well as biologically.

Trichophytic fungi of different botanical subspecies produce distinct clinical diseases. The successful treatment likewise varies. One clinical type is chronic, not severe, refractory to treatment, and is of animal origin. There may be folliculitis, perifolliculitis or an invasion of the cutaneous or subcutaneous tissues. This type is caused by the endothrix. The other clinical type is highly infectious, is acute and responds readily to treatment. This is caused by the ectorrhix.

The author discusses the various methods of treatment with: sublimate, dilute carbolic, liquor formaldehydi, sagrotan, iodin, chrysarolin, traumatacin, salicylic, epicarin, red sulphur salve, naphthol-resorcin salve, cignolin, etc. Treatment by a vaccine made from a laboratory culture of the fungus is discussed at greater length. As a diagnostic measure by intracutaneous injection the vaccine is probably of no value. Many cases, however, have been successfully treated by vaccines. Highly favorable results have been reported following the cutaneous injection of turpentine oil and terebenthine. But "the fact is, that in most of the cases of the large lumped form a speedy healing
is brought about while in the other types the favorable results reported by Klingmüller, Franz Zaver Müller, Schedler and other authors are not to be observed."

The author concludes that in obstinate and deep seated affections treatment with roentgen rays is the method of choice. In the more severe cases two or three erythematous doses filtered through 1 to 4 mm. aluminum are advised.

ELBERT CLARK, Chicago.

AGREEMENT IX RESULTS OF THE WASSERMANN REACTION.

This comprises a report and study of tests performed by two laboratories in 3,000 hospital admissions. The two laboratories selected for the work were the laboratory of the Massachusetts Department of Health and the laboratory of the Boston City Department of Health. Three cholesterinized antigens were used by one laboratory and one cholesterinized and an acetone insoluble antigen by the other laboratory.

Summary: The blood serums of 3,000 patients were subjected to the Wassermann tests by two independent laboratories. An analysis of the results showed that there was complete uniformity in the findings of the laboratories in 93.44 per cent. The 6.56 per cent. variation included cases reported as doubtful. Considering only the variation of cases reported positive by one laboratory and negative by the other, the percentage variation was 4. This was 1.4 per cent. positive in one laboratory and 2.6 per cent. positive in the other laboratory. Some of the cases reported positive by one laboratory and negative by the other were known to be syphilitic, so that the negative reaction was the incorrect one. Considering, then, the cases that either laboratory may have reported as positive in nonsyphilitic cases, the percentage was 3.16. This is probably a higher percentage for false positives than actually occurred, as some of these cases were presumably syphilitic. This percentage variation is based on only one test. Repetitions resulted in a uniformity of findings in the majority of cases. This is considered a good testimonial for the accuracy of the tests as performed in these two laboratories.

WAUGH, Chicago.


Haguenaü and Kudelski review the subject of the development of icterus during arsphenamin treatment, and find that this condition is being noticed with increasing frequency, but that it is nevertheless a rather rare complication. Neo-arsphenamin produces icterus more frequently than does arsphenamin, and some series of the former appear to be particularly active in this respect.

Icterus may occur after the first injections, or several months after treatment has been stopped. It is almost always seen in patients with recently acquired syphilis, but may be seen in old cases, and even in nonsyphilitic cases. It is also seen in patients in whom the liver has previously shown no sign of disease and in those who have previously had liver disease.

The cases may be divided into two main groups: those occurring at the beginning of arsenical treatment, and those seen at the end of treatment and
some weeks or months after treatment or as the authors designate them, precocious and tardy icterus.

The clinical aspects of the two types are considered in detail, and after a careful study of the pathogenesis the authors conclude that no one factor is responsible for all cases. Dividing the cases into two groups according to the stage of the syphilis, they find that in cases of early syphilis treated with arsenical products, the etiologic factors may be: (1) hepatosyphilis (Herxheimer reaction or a hepatortecidive)—usually the precocious type, (2) catarrhal toxii-infectious icterus, secondary to arsenical gastro-enteritis—rare, (3) toxic arsenical icterus—rare, and (4) coincidental icterus (from lithiasis, etc)—exceptional.

In cases of tertiary syphilis, "parasyphilis" or nonsyphilitic conditions treated with arsenicals we have the last three causes enumerated above, the toxic arsenical form usually occurring as the late variety.

SENEAR. Chicago.


Feer discusses the relationship of varicella to herpes zoster. He reports four interrelated cases. The first patient had typical varicella. The second patient, a contact of the first, developed typical herpes zoster fourteen days later. Patients 3 and 4, contacts of Patient 2, developed typical varicella seventeen and twenty days, respectively, after the beginning of the herpes zoster in Patient 2. Patients 3 and 4 had not been exposed to varicella recently.

The herpes zoster covered almost the entire right half of the breast and was sharply demarcated. Lesions were not seen elsewhere. During the height of the attack, there was a fever of 38.4 C. (101.1 F.) and a distinct leukopenia. It could not be determined whether Patient 2 had ever previously had varicella.

In the literature Bokay reports a series of thirteen cases (twelve of his own—collected over a period of thirty years) in which the patients separately contracted varicella after exposure to herpes zoster. Henoch and Thomas had previously noted that varicella may present a zoster-like grouping. Tenneson described cases of herpes zoster in which there were also present vesicles scattered over the various parts of the body. Feer thus believes that in his series the case of typical herpes zoster was an aberrant type of varicella and etiologically was the cause of the two succeeding cases of typical varicella; in other words, that the herpes zoster was a true case of varicella. In Bokay's cases, herpes zoster was the infecting agent for varicella. In Feer's cases, herpes zoster was the intermediary infecting agent between varicella and varicella. In the light of these observations the so-called epidemics of herpes zoster are easier to understand.

ELBERT CLARK, Chicago.


According to Sigmund Pollitzer, there is no factor in the prognosis of syphilis that is comparable in importance with early and energetic treatment. Syphilis that has been generalized in the system, that has infected every organ and tissue, that in the course of years has induced sclerotic changes in important structures, presents an entirely different prospect of cure from the disease in its incipience. The treatment of syphilis by the vigorous exhibition
of arsphenamin in its primary stage, while the disease is still largely a local infection and before the organisms have acted long enough on the tissues even to provoke the development of a positive Wassermann reaction, results in the immediate cure of the disease in practically every case. The prognosis of a properly treated case of syphilis is at its best in its primary stage. The prognosis has been immeasurably improved by the discovery of the spirochete. The second great achievement of recent years is the application of the Bordet-Gengou method of complement fixation to syphilis—the Wassermann test. The third achievement is the employment of the organic arsenic compounds to which the name arsphenamin has been officially assigned. Recent additions to our knowledge have made it possible to attack the disease by prophylaxis at the moment of infection; to make an infallible diagnosis before the system is swarming with spirochetes; to recognize the necessity for further treatment even in the absence of symptoms; to detect the disease in the central nervous system before clinical symptoms are manifest, and finally, in arsphenamin, have given us a remedy incomparably superior to mercury in speed of action as well as in efficacy. It is inconceivable that the next generation will not reap the benefit of the improved prognosis of syphilis.

Waugh, Chicago.


The literature on this subject is exceedingly scant and most of it has been supplied by American writers. The author reviews, with critical comment, all case records found in the literature. He considers the earlier reports lacking in conclusive evidence of bladder syphilis, the earliest acceptable report being that of Fallini in 1849. Many of the cases reported since that time have also shown a lack of evidence to warrant the diagnosis. There are now only fifty-eight undoubted cases on record, including the author's case, a report of which accompanies the article.

The average time of bladder involvement following original infection in the recorded cases was sixteen years. The majority of cases occurred between the ages of 20 and 50 years, almost twice as many occurring in males as in females.

The author concludes:

1. Only eighty-four cases purporting to be syphilis of the bladder have been recorded in the literature, and of these only fifty-eight are accepted as authentic.

2. Syphilis of the bladder is not so rare as the comparatively meager literature on the subject would seem to indicate.

3. Bladder syphilis would probably be more frequently recognized if looked for more frequently.

4. All cases of hematuria and pollakiuria should be looked on with suspicion until found to be of other than syphilitic etiology.

5. There is nothing characteristic either in the symptomatology or the cystoscopic picture of bladder syphilis, so the diagnosis must rest on other evidence.

Tomlinson, Omaha.

Practically all aneurysms are due to syphilis. The majority occur in men, and the most frequent age incidence is the fourth and fifth decades.

The symptoms, physical findings, and differential diagnosis are given. Special attention is given to the roentgen-ray findings.

Rest, restricted diet and forced anti-syphilitic treatment constitute the essentials of treatment.

Tomlinson, Omaha.


The entire trunk was involved with small reddish-yellow plaques, which when microscopically examined proved to be xanthoma.

Guy, Pittsburgh.


This was a case of linear morphea, or scleroderma, beginning at the outer margin of the right orbit and extending backward. A similar condition was beginning to appear on the other side. The condition began nine months after the patient was wounded in the left hand.

Guy, Pittsburgh.


The patient was a veterinary officer doing laboratory work, and the disease was of a severe type. The article contains nothing new of special importance.

Waugh, Chicago.


In this interesting case report of a probable gumma of the breast the diagnosis was based on these points: history of syphilis in the husband, two miscarriages, positive Wassermann test, presence of a tumor in left breast for one year, the growth being 4 inches long and from 1 to 1½ inches in diameter; the tumor was not tender and the regional glands were not involved. There was marked reduction in the size after antisyphilitic treatment.

Waugh, Chicago.


The condition proved to be a case of shaving-brush anthrax. The patient made an uninterrupted recovery under mild antiseptic applications.

Guy, Pittsburgh.
NEVUS OF LOWER LIP AND LYMPHANGIOMA OF TONGUE.

Howell reports a child of 6 years with nevus of the lower lip involving the mucous membrane of the gum, which bled occasionally. At the age of 3 the swelling was noticed on the posterior aspect of the tongue; it gradually grew forward, becoming stationary only when the tongue almost filled the mouth. Vesicles formed on the tumor and continually broke leaving painful ulceration. Occasionally the tongue became unusually enlarged and protruded from the mouth, and was then excessively painful. There was no history of similar conditions in the family and no history of syphilis in the patient.

Pusey, Chicago.


The author reports two cases of onychomycosis treated and cured. Both occurred in women of middle age; a thumbnail of one was affected, a fingernail of the other. The fungus was found in scrapings, but no cultures were made.

The disease had existed for months in one, for years in the other. They were given a lotion of salicylic acid, 1 dram in 1½ ounces of methylated spirit, to be painted on after scraping every night, and without scraping every morning.

This was used for three months and longer. Both have been cured for twelve months.

Oliver, Chicago.

THE ACTION OF ULTRAVIOLET RAYS ON BLOOD SERUM, LEUKOCYTES AND BACTERIA. D. Sireci, Sperimentale 73:253 (Feb.) 1920.

From his interesting experiments the author reaches the following conclusions:

1. The ultraviolet rays produce a marked reduction of the phagocytic properties of the blood.

2. This reduction is almost exclusively due to the paralyzing action of the rays on the phagocytes.

3. The ultraviolet rays exert no action whatever on the opsonic index of the serum.

4. The ultraviolet rays probably act on bacteria in such a way as to produce their complete destruction by leukocytosis in greater proportion than in normal conditions.

Pardo-Castello, Havana.


Samuel reports the case of a boy, aged 6, whose nails showed spots of leukonychia. In addition, in the left lower costal and lumbar regions there was a large patch of melanodermia in which there were spots of leukodermia...
arranged in lines. The elder brother showed leukonychia striata on several fingernails. The father had recently developed leukodermia and melanodermia at the angle of the lower jaw and leukonychia of his fingers. The father's brother showed leukonychia striata of all his fingernails.

Pusey, Chicago.


A primary epithelioma of the ocular conjunctiva is described: "The growth measured 1½ inches transversely by ¼ inches vertically." There was no severe pain, but profuse mucopurulent discharge. An excellent pathologic report by Allen J. Smith, professor of pathology, University of Pennsylvania, is incorporated; this report forms the most valuable part of the article. Professor Smith considers the tumor malignant. Complete bibliographic reference is appended.

Elbert Clark, Chicago.


The authors report a case of verrucae planae which disappeared rapidly after an exposure to radium after all other measures had failed. Eleven milligrams of radium, screened with two thicknesses of paper, were applied for fifteen minutes.

Levin, New York.


Carretti describes the various clinical pictures produced by late syphilis in the liver and deducts therefrom that syphilis of the liver, either inherited or acquired, may produce the symptoms of all known types of disease of the liver and of diseases of the organs in its vicinity. He believes that specific treatment should be undertaken in all cases of disease of the liver in which there is any reason to suspect syphilis, and also in all cases of cancer of the liver even where nothing suggests syphilis.

Pusey, Chicago.


Barendt, in presenting two cases of scleroderma before a society, discusses some of the characteristics of the disease. He recalls the various names that have been successively used for the condition, and justifies his use of the ending "ia" by stating that it implies a definite disease of the skin, and not merely a change in the structure and texture. The source of the confusion of names in Alibert's keloid and Addison's keloid (morphea) is also traced.

The remainder of the paper merely relates the usual clinical and histopathologic picture of the disease, and emphasizes the failure of all therapeutic measures.

Senear, Chicago.
THE RELATION OF INBREEDING TO TUMOR PRODUCTION.
STUDIES IN THE INCIDENCE AND INHERITABILITY OF
SPONTANEOUS TUMORS IN MICE. MAUD SLYE, J. Cancer Res.
5:53 (Jan.) 1920.

This investigator concludes that inbreeding is not an influence in the
increase or the incidence of cancer, but that it tends to eliminate cancer by
eliminating the strain, whereas hybridization increases cancer by increasing
the output of cancer progeny.

A further conclusion is that cancers can be eliminated by persistently
mating persons of cancerous ancestry with persons of noncancer ancestry.

H. R. FOERSTER, Milwaukee.

SYPHILITIC AORTIC INSUFFICIENCY. J. C. MEAKINS, Canad. M. A. J.
10:179 (Feb.) 1920.

Meakins reports the case of a man, aged 47, who on admission to the hospi-
tal in February for influenza, was found to be affected also with well devel-
oped syphilitic aortic insufficiency. The symptoms and physical signs were
characteristic and distinct. Under specific treatment all evidence of cardiac
lesion had disappeared in three months, although the Wassermann reaction
remained positive.

SENEAR, Chicago.

PERSISTENT SALVARSAN EXANTHEMA. DORA FUCHS, Deutsch. med.
Wchnschr. 45:1276 (Nov. 13) 1919.

Fuchs reports the case of a patient who repeatedly after injection of
arsphenamin or neoarsphenamin developed reddening of the bulbar and pal-
pebral conjunctiva and lacrimation. In some instances it failed to occur when
a preliminary injection of epinephrin was given, and in others was promptly
relieved by an injection of the same solution.

SENEAR, Chicago.

THE TECHNIC IN THE RADIUM TREATMENT OF KELOID AND
OTHER COMMON SKIN LESIONS. ROBERT TAFT, Urol. & Cutan.
Rev. 24:73 (Feb.) 1920.

The writer advocates the employment of filtered rays in all superficial skin
conditions.

LEVIN, New York.
Society Transactions

NEW YORK ACADEMY OF MEDICINE, SECTION ON
DERMATOLOGY AND SYPHILIS

Regular Meeting, Jan. 6, 1920

JOHN E. LANE, M.D., Chairman

CHRONIC ERYTHEMA OF FACE (For Diagnosis). Presented by
Dr. W. B. Trimble.

A clerical worker, aged 27, stated that for the past five years she had had trouble with her face. She had not been subject to constipation, but had had attacks of indigestion with abdominal pain about once every few weeks. The skin of the face showed a dull red blush, permanent and evidently due to passive venous congestion, with some dilated venules. There was no scaling, itching or papules.

Dr. Trimble, replying to an inquiry as to the cause of the abdominal pains, said the patient merely stated that she sometimes had these attacks of abdominal pain. If she continued to come to the clinic, she would be referred to the internist, who would endeavor to find out the cause of the trouble.

ULCERATING SCARRING OF THE CHEEK (For Diagnosis). (Previously presented before the New York Dermatological Society.) Presented by Dr. W. B. Trimble.

A girl, aged 6, born in this country, according to the parents, when 1 year old had an eruption scattered over the whole body, all of which disappeared in a short time, with the exception of the face lesion. This lesion remained and slowly increased in size up to the present time. It was irregular in outline and thickened, and on close scrutiny was seemingly verrucous in character. Several small, superficial atrophied spots could be made out in the healthy skin close to the border of the lesion. There were also several small papular lesions of indeterminate character on the left buttock. The possibility of these lesions being tuberculous was taken into consideration.

DISCUSSION

Dr. W. J. Highman said that the case had been presented before another society with the diagnosis of probable tuberculosis, and he had at that time suggested that it might be in either the pseudopelade group or, as corollary to that fact, possibly a lupus erythematosus. The evidence on the face seemed to bear out the diagnosis, and he agreed with Dr. Trimble's revised views.

Dr. W. B. Trimble, referring to Dr. Highman's remarks about lupus erythematosus, said that the only disturbing point about that diagnosis was that at first the lesion unquestionably appeared to be ulcerated, and lupus erythematosus is not supposed to ulcerate. This ulceration, however, might have been due to a secondary infection that had cleared up under the application of the ointment.
ADENOMA SEBACEUM. Presented by Dr. J. J. Rothwell.

A young man, aged 21, born in the United States, although the cheeks were quite red from the time of birth, had no actual lesions until he was 3 years of age, making the duration eighteen years. The case was typical. Great numbers of thickly set, hard warty light colored lesions, pinhead in size, were scattered over the cheeks, chin and sides of the nose, interspersed with telangiectases, making the usual clinical picture. The inflammatory areas seen about the chin were due to the Kromayer light.

COLLOID MILIUM. Presented by Dr. W. B. Trimble.

A man, aged 58, born in the United States, had recently been shown at a previous meeting of the Section. The duration of the condition was two years. The patient first noticed a small papule somewhat lighter than the normal skin, situated on the left side of the nose. Others gradually appeared, and after a time lesions appeared on the right side. The left side was always the more extensively affected. The condition exhibited consisted of a group of small yellowish-white papules, lighter than the normal skin in color, with a translucent appearance. The whole group made a lesion about the size of a five-cent piece. A biopsy demonstrated the case to be one of colloid degeneration, as the section showed the peculiar connective tissue degeneration observed in that disease.

DISCUSSION

Dr. L. W. Ketron, Baltimore, concurred in the diagnosis of colloid degeneration. There were several clinical forms that this type of degeneration might assume on the skin. A clear elucidation of the various forms of degeneration was difficult, and the general pathologist did not help much in differentiating them. Inspection of the section of this case, however, showed undoubtedly that it was a case of colloid degeneration, but it was not typical clinically of Wagner's colloid milium. One patient whom he had studied had a tumor of the same character on the ear. It differed from this one, however, in that it was studded with pinhead sized, translucent areas resembling vesicles. When these were opened the degenerated material could be easily enucleated. It resembled jelly in consisteny.

Dr. W. B. Trimble said he was glad to have Dr. Ketron agree with the diagnosis. There was some opposition to it when the case had been previously presented, and there was some question about colloid milium being aggregated, not disseminated, lesions. Dr. Ketron had confirmed his claim that sometimes the lesions coalesce and form such a type of degeneration.

MELANOMA. Presented by Dr. W. B. Trimble.

The patient, from the University and Bellevue Clinic, a white man, aged 47, of German birth, a baker, exhibited on the left temporal region, just beyond the outer angle of the eye, an unevenly elevated and irregularly outlined dark-brown or slate-colored, rather soft lesion about the size of a five-cent piece. Twenty-five years before he had been burned on the face with exploding gunpowder, which left at the above location a black spot the size of a pea. This lesion remained quiescent until June, 1919, when it began to grow or enlarge and become more elevated. There had been no pain, and only slight itching at times.
CASE FOR DIAGNOSIS. Presented by Drs. O. L. Levin and A. J. Gilmour.

A boy, aged 4, was first seen in the afternoon of the day of meeting. The father and mother stated that the condition on the scalp had been present for two years and only once, a year before, had the hair been cut. The hair of the head was said to grow until it was about half an inch in length, when it broke off. The boy was the third of four children; the two elder did not show the condition, but the youngest, a girl of 2, had a similar condition. The hair of the scalp appeared as if it had been cut by clippers in the hand of an amateur. Arranged concentrically around the scalp, were five polygons formed by the broken or cut hair. These increased in size with the dimension of the skull, being small at the vertex and larger toward the base. The younger child—who was also presented—showed a similar but less marked condition.

DISCUSSION

Dr. C. M. Williams said he would like to have the child isolated from the parents and from all other children for two months. He believed a normal growth of hair would then be seen.

Dr. S. Pollitzer said there was no question at all about the diagnosis—the lesions of the hair were produced by scissors. Possibly one of the older children performed this operation on the younger ones. It seemed to him, however, that the mother of the children was of a distinctly neuropathic or psychopathic type and she might herself be the causal agent in her children’s peculiar trichosis.

Dr. B. Lapowski asked whether any microscopic examination had been made, and was answered in the negative.

Dr. W. J. Highman said the condition was beginning to appear on the younger infant now. It seemed to be a case of hysterical mutilation once removed.

Dr. A. J. Gilmour remarked that there were two older children in the family, one about 8, the other a little younger. In his opinion they or some one else had cut the child’s hair in this bizarre fashion.

GUMMAS OF TONGUE: EPITHELIOMATOUS DEGENERATION.

Presented by Dr. C. M. Williams.

T. G., a man, 60 years of age, stated that he had had a penile sore thirty-five years ago. There was no history of secondary sores. About five months ago he noticed a sore on the top of the tongue, and later other sores and lumps developed. As presented, the tongue was studded with nodules, some of which had ulcerated. The glands under and behind the ramus of the left jaw were enlarged.

Dr. Williams said that the patient was first seen the day before and there had not been much time to study the case, but it appeared to be a gumma and perhaps an epitheliomatous degeneration also.

DISCUSSION

Dr. B. Lapowski inquired in regard to the plan of treatment proposed and said that when he had presented a similar case not long before he had been told he had not treated it correctly.

Dr. F. Wise said that this patient had come to Mount Sinai Hospital some three weeks before and must have had antisyphilitic treatment since, judging from the improvement in the condition as presented.
Dr. J. F. Fraser said he had thought Dr. Williams had been informed of the result of the Wassermann reaction, which was ++ +, with cholesterin antigen + and with alcoholic.

NECROTIC GRANULOMA. Presented by Dr. W. B. Trimble.

The patient was a man, aged 62, born in the United States. For six years small papules had continued to come and go, always confined to the nose. These lesions necrotized in the center and went through a stage of regression, leaving punctate scars. The Wassermann reaction was negative.

DISCUSSION

Dr. C. M. Williams said that seeing the patient on presentation and also at the clinic, he had not been able to detect any of the firm nodules one expects in granuloma; the whole process seemed to be superficial. He had seen a number of cases of beginning rhinophyma or severe roacea in which the scarring was a more important feature, and he was inclined to consider this one of those peculiar cases of roacea with a good deal of atrophy and not much granulation.

Dr. P. E. Bechet remarked that the typical punched-out, variola-like scars of acne varioliformis were present. Some of the active lesions had necrotic centers. At the temples were a few varioliform scars, with here and there an active lesion. He considered the diagnosis of acne varioliformis the correct one, and thought that probably Dr. Trimble had that condition in mind when he called it necrotic granuloma.

Dr. S. Pollitzer disagreed with the diagnosis and said that the man had stated that the process began on the temporal region a few years ago and spread downward on the cheeks. The only unusual feature was the close aggregation of the scars on the nose; that was unusual in acne varioliformis. Otherwise the condition was quite typical of acne varioliformis which was not a tuberculid.

Dr. B. Lapowski said that he saw no difference between acne necrotica and tuberculid.

Dr. F. Wise stated that when Dr. Trimble had said necrotic granuloma he (Dr. Wise) understood him to mean acne varioliformis, a disease not due to infection with the tubercle bacillus. Acne varioliformis, the disease presented by this patient, was an infection with the staphylococcus organism, while necrotic granuloma was a true tuberculid.

Dr. W. B. Trimble said that, like Dr. Lapowski, he understood acne necrotica and necrotic granuloma to be the same. Many of these various terms could be grouped under the term necrotic granuloma. In other words, he considered the case one of papulonecrotic tuberculid. Grouping many of these terms would naturally encounter some opposition, and the point raised by Dr. Wise in regard to acne varioliformis being a staphylococccic infection was a point in question. He himself was inclined to believe that acne varioliformis was also a tuberculid.

SYPHILITIC REINFECTION. Presented by Dr. C. M. Williams.

M. G., a man, aged 27, when first seen on Aug. 9, 1916, gave a history of having had a penile sore eight months before, for which he had been treated with about twenty injections of mercury. When first seen, he complained of headaches and pains in the extremities, and showed extensive mucous patches on both tonsils. The Wassermann reaction was + + + +.
The treatment consisted of neo-arsphenamin, 0.9 gm., given Aug. 11 and Nov. 3, 10, 17 and 24, 1916; arsenobenzol 0.9 gm., July 6, and 0.6 gm. July 20 and Aug. 3, 1917; arsphenamin 0.6 gm., March 1, 8, 15 and 22, 1918—together with mercury in the form of intramuscular injections of the salicylate, and mixed treatment internally throughout the course. The patient was a sailor and therefore treatment was irregular. After the first test the Wassermann reaction varied from negative to +, except that on Feb. 18, 1918, it was ++. On Sept. 4, 1918, it was negative, and three tests made in the army between September and December, 1918, were said to be negative.

On Nov. 19, 1919, the patient returned with a penile sore of four weeks' duration. The border was firm and the base indurated; the inguinal glands were enlarged. The Wassermann reaction was negative on that day and also on December 3. Dark field examination on November 14 showed no spirochetes, presumably on account of the use of an antiseptic dressing. Microscopic examination on December 12 showed both Spirocheta pallida and the Ducrey bacillus.

There were two ways in which to account for the condition presented by this patient. First, it might be considered a reinfection—and this he believed was the correct explanation. The only objection to this view was the experience of centuries that such reinfection does not occur. But the treatment now is much more efficient than formerly, and there was a constantly increasing number of reports of such cases. Second, it might be considered an ulcerated gumma, and there was no way of disproving that assumption, because spirochetes did occur in gummatous tissue although they were very rare: the Wassermann reaction was sometimes negative in the tertiary period, and local adenopathy might occur. Nevertheless, the concurrence of all these conditions after a suspicious intercourse was, in Dr. Williams' opinion, more probably due to a reinfection.

DISCUSSION

Dr. J. F. Fraser said there were very few at present who did not believe that the occurrence of reinfection with the syphilitic organism was probable. At the same time, it should be remembered that there were those who took the ground that there is no such thing as an absolute cure of syphilis, and consequently no reinfection. Warthin of Ann Arbor takes this ground and supports the contention by reporting numerous cases with a negative clinical history and a negative Wassermann reaction over long periods, in which, after they came to necropsy, he found spirochetes living in symbiosis within the tissues. In the case just presented, the history of exposure after a period of apparent cure and the development of the lesion after such an exposure at the end of the proper length of time—the lesion presenting all the marks of an initial sore—and the fact that spirochetes were demonstrated in the lesion, lent strong support to the view that in this instance the man obtained the spirochetes from an external source rather than from any storehouse of latent spirochetes within his tissues. Considering these facts, he was inclined to say that Dr. Williams' case should be recorded as one of genuine reinfection. Dr. Williams had referred to the impossibility of proving that claim mathematically, but how many things in medicine could be so proved?

Dr. E. W. Abramowitz said that Dr. Williams had brought out a very important point—that sometimes it was impossible to tell whether or not it was a case of reinfection.
He then cited a case in which a patient contracted an infection about July and came under observation in September with a chancre, a macular rash and a + + + + Wassermann. He received 3.2 gm. of arsphenamin in six weeks and 1 gm. of mercury salicylate in fifteen weeks. The lesions disappeared and his Wassermann reaction became negative. He was told to report again in two months for further treatment; but he came back in two weeks after his Wassermann reaction became negative and stated that he had had an exposure a month before. He showed a papule on his lip, mucous patches in his mouth, large papules on his body and a large papule on his penis which might have been called a chancre if the other lesions had not been present. His Wassermann reaction was + + + +. Had not this patient's history been known, had he not been under personal observation and treatment, and had he not given such an intelligent history, this might have been considered a case of reinfection. Furthermore, he was receiving arsphenamin, and in spite of that fact papular lesions were appearing on his body.

Dr. W. J. Highman said that a further point in favor of Dr. Williams' attitude lay in the fact of the patient's inguinal adenopathy. Had it been a gumma, glandular enlargements would not have been striking, if they appeared at all. The case cited by Dr. Abramowitz rather complicated the issue and threw no light on the discussion. The period between the infection and the syndrome reported was too short to permit of reinfection; it seemed to be a delayed secondary rash. It was not uncommon to find a reappearance of a disseminated rash, with or without treatment, so that this case could hardly be called a reinfection but rather a late secondary manifestation due to the first infection.

Dr. M. Scheer asked whether the inguinal adenitis might not have been due to the Ducrey bacillus and might not the inguinal adenopathy be considered as a specific feature of the lesion.

Dr. C. M. Williams said he had nothing to add except that the Ducrey bacillus was reported.

Dr. B. Lapowski said that both the time which had elapsed between the first infection and the supposed reinfection and the symptoms of reinfection (glands and ulcer) spoke against even entertaining an idea of reinfection. If such cases were reported as reinfection one was spreading abroad a false conception—that certain forms of syphilis treated by a certain method were curable in twelve months—a statement which was laden with great danger for both the patient and the community. How can we tell whether a patient is reinfected if we do not know whether the first infection was cured? Settle this point first. No one in the present stage of our knowledge of syphilis can prove that an infection of syphilis is cured. If one cannot ascertain that, one has no right to say that a reinfection took place.

Dr. W. J. Highman said he did not know where the discussion was leading. He himself did not know that syphilis was curable, but he had every reason to believe that it was. If so, there was such a thing as reinfection. If it was curable it was a crime that the public should not know it. The point to be determined was whether or not syphilis is curable. The reason he had asked about the inguinal adenopathy was that with a gumma one did not frequently find regional adenopathies, and that was the reason he wanted Dr. Scheer's question answered. If Dr. Lapowski wished to spread the propaganda that syphilis was incurable, he himself would spread abroad the fact that in his opinion it was curable. All he wanted was to find the truth on the subject.
LUPUS VULGARIS. Presented by Dr. O. L. Levin.

A native of Russia, aged 62, married, a jeweler, stated that he had had the eruption on his face and neck for fifty years. He had received no treatment for the condition until twenty years before, following an attack of pleurisy, when he received about twenty exposures to the roentgen rays. It had not shown any signs of activity until recently when it began to spread and ulcerate.

When the patient was first seen, one month before, the lower area of the left cheek and neck were covered by a hard whitish scar which was ulcerated in its central zone, studded with typical apple-jelly tubercles and traversed by telangiectasia. On the periphery of the lesion and in the postauricular region there were numerous discrete tubercles and patches characteristic of the disease. There was a pea-sized, elevated, hard white lesion on the elevated area of the lesion on the cheek.

The slough which was present when exhibited was the result of the application of a caustic ointment.

CASE FOR DIAGNOSIS. PITYRIASIS RUBRA PILARIS? Presented by Dr. P. E. Bechet.

D. D., aged 13, a boy from Dr. Trimble's service, stated that in July, 1919, he fell off a subway platform and suffered a severe burn from contact with the third rail. This burn was still involuting at the time of presentation. One month after the accident, he first noticed the eruption. Two months later the trunk became involved. The lesions consisted of scaly, infiltrated, sharply defined patches, varying in area from one to several inches in diameter, with lichen planus-like shiny surfaces. In the intervals between the patches, were large numbers of shiny, pinhead sized papules. There was hyperkeratosis of the palms and soles. The patient came into the clinic on the day of presentation, so that an apology was due the Section by the presenter for an incomplete history. There was marked pituitary disturbance. The boy was of low mentality.

DISCUSSION

Dr. Howard Fox thought the condition a classic case of pityriasis rubra pilaris. It resembled psoriasis at a distance, but on close inspection the discrete scaly acuminate papules, the red thickened palms and the absence of psoriatic scales left no doubt as to the diagnosis of Devergie's disease. The case closely resembled photographs made by Dr. G. H. Fox, published in Morrow's System.

Dr. S. Pollitzer said there was no doubt that the scaling on some of the nummular patches on the anus was the micaceous scaling of psoriasis, but one should consider the disease as a whole. The entire picture left no doubt that it was a case of pityriasis rubra pilaris. The characteristic follicular lesions on the back of the neck and on the abdomen, and the diffuse erythodermic scaling of the palms made the diagnosis of pityriasis rubra pilaris obvious.

Dr. W. B. Trimble agreed with the diagnosis as presented.

Dr. F. Wise agreed with the diagnosis as brought out by Dr. Pollitzer. The only question was the duration of the condition. The boy was clearly abnormal—a dyspituitary case. He claimed that the rash broke out after he
was burned but evidently the rash must have been there for months before he received the burn and his attention was attracted to it by the dressing of the burn.

Dr. O. L. Levin said that last year he had presented a case of pityriasis rubra pilaris before the Manhattan Dermatological Society which also showed signs of dyspituitarism, which cleared up under the administration of thyroid. It would be interesting to see the effect of thyroid in this case, or thyroid combined with the pituitary gland.

Dr. W. J. Highman said that he had under treatment a woman of about 50 who had what seemed to be an alopecia areata and also lesions that suggested pityriasis rubra pilaris. She had been treated by an "endocrinologist," but the roentgen ray was curing her of the pityriasis rubra pilaris.

CHARCOT'S KNEES (Syphilis Congenita). Presented by Dr. J. J. Rothwell.

A white boy, from the service of Dr. Trimble at the University and Bellevue Clinic, aged 15, of Russian parentage, had been referred by the orthopedic department to the dermatological department for the administration of arsphenamin, in the fall of 1918. The diagnosis sent with the patient was "chronic synovitis of both knees," with a +++ Wassermann reaction. Both knees were enlarged to nearly the size of a derby hat, there was complaint of pain—both spontaneous and due to manipulation—and the motion of the joints was restricted (they were not excessively motile). A radiograph taken at that time showed no abnormality in the bone construction of the joints, and the roentgen-ray diagnosis did not differ from that made clinically. A course of six arsphenamin treatments combined with mercury and iodid of potassium by mouth was administered, but no improvement resulted. In the spring of 1919 the right shoulder had become enlarged, but a radiograph of that joint showed nothing abnormal to induce special comment on the roentgen-ray history.

The patient was irregular in attendance at the clinic and the case was presented as a possible case of Charcot's knees.

DISCUSSION

Dr. S. Pollitzer said that on the basis of the facts presented, the case seemed to him to show rather typical lesions of syphilitic gonitis, such as are not rare both in acquired and congenital syphilis. In the Charcot knee there was a neuropathic condition in which the articular ends of the bones were eroded, resulting in a loosening and loss of control of the joint. The Charcot knee occurs in old tabetics.

CASE FOR DIAGNOSIS. Presented by Dr. C. J. Hailperin, Newark, N. J., by invitation.

L. P., aged 52, a tailor, was presented from the service of Dr. Trimble. In July, 1918, he had "sciatic rheumatism" for which he took very hot salt water baths at the seashore. After the fourth bath, a rash appeared on the thighs, then rapidly spread down over both legs and up over the trunk and arms. The involved skin was tender and painful. Then the skin began to desquamate, peeling off in large pieces. About three months after the onset the desquamation ceased.
The appearance of the skin as presented had lasted about two months. There were numerous papules and variously sized plaques that showed some scaling. These papules and plaques were scattered all over the body except on the face and scalp. The lower extremities were markedly erythematous; the skin was quite thickened and infiltrated. There was marked itching at night. The scalp showed two or more areas of alopecia. The blood Wassermann test was negative.

**DISCUSSION**

Dr. J. F. Fraser said that the histologic picture was rather indefinite; it might suit an early or erythematous stage of mycosis fungoides but he did not think any one could make a diagnosis on the histologic grounds at the present stage. Before committing himself finally he would like to examine a more advanced lesion.

Dr. W. J. Highman said that he and Dr. Hailperin had gone over the case together and on purely clinical grounds it would seem that a pre-fungoid stage of mycosis was the most likely diagnosis. He based this opinion on the fact that the lesions were apparently pruriginous; in the main they were located on the lower half of the body, which was a point that Jadassohn used to lay great stress on; and finally there was marked infiltration in the lesions—some of them, over the buttocks especially, were so infiltrated that the only diagnosis they suggested was early mycosis. There was no need for Dr. Fraser to be discomfited that at this early stage there was nothing pathognomonic about the case. In the early stage there was rarely anything pathognomonic microscopically. In such a condition the clinical diagnosis was of more importance than the histologic one.

Dr. W. B. Trimble said that he had seen the patient but once before and did not wish to put himself on record as making an absolute diagnosis, but from the isolated lesions on the arms it seemed to be an atypical form of lichen planus, though that did not fit the condition on the thighs; whether the latter was caused by some form of treatment that had been applied or whether there was a dermatitis on top of another condition, did not appear. It would be interesting to learn the pathologic diagnosis.

Dr. L. Oulmann suggested parapsoriasis lichenoides. The variety of lesions, the scaliness, the histologic absence of the diagnosis of mycosis fungoides and very little itching did not speak for the diagnosis of the latter.

Dr. B. Lapowski said that with such a poor light it was impossible to distinguish the primary lesion from the secondary or to distinguish the type of inflammation on which Dr. Trimble had laid stress. On the mucous membrane of the left cheek there was a white spot. The man was a smoker, and it might be due to that. It was necessary to see such a case many times in a good light to clear up the diagnosis.

Dr. P. E. Bechet said that through Dr. Hailperin’s courtesy he had been enabled to observe the case very carefully by daylight. He could not agree with the diagnosis of lichen planus. The lesions consisted of aggregated patches which were sharply defined and of a dark red color, with a tendency to circinate and serpiginous development, particularly on the arms. Some of the lesions were certainly infiltrated. The lesions on the mucous membrane of the mouth resembled leukoplakia more than lichen planus. He was inclined to consider the case one of early mycosis fungoides.
Dr. C. M. Williams said that to him it seemed to be a case of premycosis for these reasons: Many of the lesions were large, certainly half an inch or an inch in diameter; while the surface was not altered; in lichen planus you could find a distinct alteration in the epidermis; on the other hand, the infiltration in this case seemed deeper and more marked. One could not tell much about the color by gaslight, but the color, which was a dark purplish red, was much more like that of premycosis than of lichen planus. It had been stated that the man denied itching. It might be that he did; nevertheless he was constantly scratching. The patient just presented asserted that he was much better now than he was some time ago; in other words, he had improved, which seemed to suggest mycosis fungoides. Dr. Williams said he could not think of lichen planus showing such large plaques with so little change in the epidermis.

Dr. W. J. Highman said that all the visual observations he had made, however, during the evening were subject to the artificial light; but as for the infiltration, that was a matter of tactile sense and he could detect an infiltration if he were blind. The course of mycosis fungoides had been so clearly outlined by Dr. Williams that it was not necessary to repeat it. By a process of elimination, the negative evidence supplied by Dr. Fraser of his histologic examination seemed to be convincing. If it had been a case of lichen planus Dr. Fraser would have noted that fact.

Dr. B. Lafowski said that to his mind, given that this case was of six months' duration, it did not present the premycotic stage. He would rather accept the diagnosis of lichen planus. He expressed the hope that Dr. Hailperin would present the case again six months later, and then we would know positively.

TUBERCULOSIS MUCOSAE ORIS. Presented by Dr. A. Rostenberg.

The patient, aged 35, born in Germany, a waiter, with a family history negative in regard to tuberculosis, had been well up to six years before, when he developed a cough. Four years before presentation he noticed an ulceration on the inner surface of the lower lip which healed up under local treatment in the course of about two years. In January, 1919, he came to the Lenox Hill Hospital Dispensary with a swelling on the left cheek about the size of a small walnut. The tumor was hard and was not painful. A Wassermann reaction was taken and was negative. The patient then remained away for a few months, and when he came back the outside swelling had disappeared but on the mucosa there was a large, deep ulceration extending down to the lower lip, and in addition there were a few smaller ulcerations on the gingiva. A Wassermann reaction was again taken and found to be negative. Specific treatment, however, improved the condition greatly, but did not clear it up entirely. The ulceration then began to resemble more a tuberculous ulcer, and an examination of a scraping revealed tubercle bacilli. A roentgen-ray examination of the chest also showed tuberculous foci. The patient was then put on the Pfannenstiel treatment, i. e., he received potassium iodid internally and applications of hydrogen peroxid on the ulceration. Under this treatment he had improved so much that the ulceration had almost healed.
DISCUSSION

Dr. F. Wise said that the patient had been under Dr. Goldenberg's care and the improvement was wonderful. Both he and Dr. Highman had seen the patient six weeks before at Mount Sinai Hospital, and the cheek was then greatly swollen and bulging out. It was the most rapid improvement he had ever seen in a tuberculous process.

Dr. O. L. Levin said he had seen the patient more than a year ago, when he showed marked involvement of the mouth which was very much swollen, covered with undermined ulcers and tubercles. The marked improvement from treatment was surprising and interesting.

Dr. A. Rostenberg said he simply wished to emphasize the value of the Pfannenstiel treatment in this case, since it did not seem to be very well known. It had been suggested to him by Dr. Goldenberg of Mount Sinai Hospital.

LICHEN PLANUS ANNULARIS. Presented by Dr. P. E. Bechet.

BROMID ERUPTION. Presented by Dr. F. Wise.

Goldie M., a nursing infant, 5' months old, from Dr. Fordyce's clinic, presented an eruption of three months' duration. The left cheek presented two large verrucous lesions. Scattered over the buttocks, thighs and scalp were numerous macules, erythematous papules and verrucous lesions. They were most numerous on the buttocks and thighs. The mother of the child had taken bromids for four months previous to its birth, but the eruption did not appear on the infant until it was 2 months old.

HEMI-ATROPHY OF THE FACE AND SCALP. Presented by Dr. O. L. Levin.

This patient had been presented at the December meeting of the Manhattan Dermatological Society, and the history and physical condition were reported in the proceedings of that meeting. Three years before the patient had been treated for scleroderma with thyroid by Dr. Parounagian, and the atrophy present was probably the sequel of the scleroderma.

Dr. M. B. Parounagian said he had treated the patient several years ago when she had a bone-like morphea of the scalp and a morphea on the sternum. She was given thyroid extract for several months and then disappeared from observation.

LUPUS VULGARIS DISSEMINATUS. Presented by Dr. Howard Fox.

M. D., a full-blooded negress, aged 35, born in the British West Indies, with a negative family history, had malarial fever thirteen years ago, had formerly suffered from dysmenorrhea and had always been delicate. Four years before she had been operated on for pyosalpinx.

The eruption first appeared on the face and later on the trunk and extremities; new lesions were appearing. They consisted of dull, brownish red, firm, mostly smooth, dry nodules. They were rounded, oval, and irregularly shaped, varying from the size of a split pea to that of a nickel. There was a slight tendency to grouping on the arms but there was no circular configuration. There were no subjective symptoms. The Wassermann reaction was strongly positive. There were no other symptoms pointing to syphilis except one pre-
vicious miscarriage. There were symptoms of probable tuberculosis including cough, night sweats, recent loss of weight, rales scattered over the chest and occasional evening temperature. The sputum was negative for tubercle bacilli. A biopsy had been made previously at Mount Sinai Hospital which, according to the statement of Dr. Isadore Rosen, showed the histologic structure of tuberculosis.

DARIER’S DISEASE. Presented by Dr. W. J. CHARGIN.

C. P., a married woman, aged 32, born in this country of Italian parentage, had always noted a “roughness of her skin,” but first observed the condition presented about two and a half years before. It began on the lower back and when presented involved the lower back, both legs and isolated areas on the arms and chest. The affection was made up of closely aggregated small papules, apparently follicular and perifollicular. The papules were capped with a dry horny lug which, however, was not readily removed and when removed did not leave a distinct crater formation. The affection was especially marked on the middle of the legs and from there shaded off to normal skin on the upper thighs and feet. There was a general dark coloration of the entire skin involved, which was quite black on the mid-legs. There was a moderate amount of scaliness. Subjectively the patient complained of very little itching. The patient’s mother was similarly affected.

DISCUSSION

Dr. F. Wise expressed the opinion that this was one of the most interesting cases presented during the evening. It did not seem to be a typical case of Darier’s disease, but it would be difficult to make a definite diagnosis. In an eruption so extensive, one would expect to see the little pitted scars so often seen in the palms. The fact that other members of the family showed the same condition was in favor of the diagnosis, but it seemed doubtful if one would be justified in making a definite diagnosis without a microscopic slide.

Dr. Pollitzer agreed with Dr. Wise. The distribution of the lesions over the lower extremities was not like that of Darier’s disease, in which the upper extremities, axillae, trunk and head are mainly affected. Clinically, the lesions seemed to be a keratosis of the follicles, but whether or not it was a case of keratosis follicularis could not be definitely determined in the absence of a biopsy.

SARCOID. Presented by Dr. O. L. LEVIN.

M. W., aged 43, born in Russia and was a housewife, had been married for five years. She had one miscarriage four years before. A second pregnancy was completed, but the child died at the age of 3 weeks. The condition presented began about a year before presentation as eruptions of discrete red lesions on the arms, legs and buttocks; these ulcerated after one week. Two months before the patient began to notice lumpy masses on the right arm with purplish discoloration of the skin. Similar eruptions appeared on the left arm and one month ago on the buttocks. None of these lesions, except those on the right leg, ulcerated. A Wassermann reaction taken two months before was +. The patient received ten injunctions of mercury up to one month ago.

On the extensor surface of the right arm where plaques of different purplish discoloration of the skin, without elevation or scaling, but in places showing on palpation pea-sized globular infiltrations. There was a similar but less
extensive condition on the left arm. On the left shoulder there was a large pea-sized, dark-red, firm nodule. There was a similar but small pea-sized nodule on the right shoulder. Both breasts, especially the left, showed diffuse purplish discoloration, with the presence of small papules. Both buttocks showed diffuse purplish discoloration with lentil-sized to small pea-sized tubercles. The extensor surfaces of both elbows showed ham-colored scaly and slightly infiltrated patches. Both legs were covered by diffuse purplish plaques, small pea-sized hard and deeply seated tubercles and small round depressed scars. There was also a folliculitis of the nose. The Wassermann reaction on Dec. 19, 1919, was negative.

DISCUSSION

Dr. W. B. Trimble said that this was a particularly interesting case. The lesions on the upper part of the body were seemingly those of sarcoid though those on the legs were ulcerating, and ulceration was not a feature of sarcoid. He could not recall any case of sarcoid either in his own experience or in the literature in which the tumor had broken down; the lesion was a nonulcerating tumor of the hypoderm. The leg lesion in this case might be erythema induratum. If the case was sarcoid, it would not be the sarcoid of Bock but the Darier-Roussy type.

Dr. W. J. Highman agreed with Dr. Trimble. The lesions on the legs appeared to be erythema induratum; the lesions on the buttocks and forearms were papulonecrotic tuberculids. It seemed to be a matter of hair-splitting. It was a toxic tuberculid of the skin.

Dr. C. M. Williams expressed the opinion that it was a tuberculid.

Dr. O. L. Levin said he had hesitated to make the diagnosis of sarcoid and he had hoped that the presentation of the case with that diagnosis would bring out discussion. He called attention to the fact that there was an erythema induratum type classified under the general heading of sarcoid. The skin showed not only the necrotic tubercles on the legs but also large superficial, slightly indurated purplish plaques on the arms, as well as hard subcutaneous nodules over the shoulders. Biopsy did not aid in making a positive diagnosis. The tissue examined was from a large tubercle on the left arm, and the pathologist at the hospital reported normal skin. The slide that he himself had examined showed a slight hyperkeratosis of the stratum corneum and the presence of small infiltrations of round and epithelioid cells in the corium. The Wassermann reaction of the blood was +, several weeks before; and negative one week before. The history showed that the condition had been present for only one year, and it was unusual for erythema induratum to appear for the first time at the age of 42.

MYCOSIS FUNGOIDES. Presented by Dr. P. E. Bechet.

J. P., aged 27, from the service of Dr. Trimble at the University and Bellevue Clinic, stated that the eruption began three and a half years before. When first seen, June 13, 1919, he presented for examination large erythemosquamous, sharply defined and slightly infiltrated patches, covering most of the trunk. They were markedly pruritic and of a dull red color. Rapid improvement followed the administration of six intravenous injections of arsphenamin. At the time of presentation the patches on the trunk had mostly disappeared,
leaving only some stains. The patches on the thighs were still in evidence. A biopsy had been made and Dr. Fraser reported that the main histologic features consisted of marked edema and dense cellular infiltration in the upper third of the corium. Small lymphocytes, numerous large lymphocytes with deeply stained nucleoli and fibroblasts were present. The endothelial cells of the capillaries were proliferating and in places were grouped together like poorly formed giant cells. There was marked intracellular edema in the basal portion of the epiderm, especially at the tips of the papillae. There was down growth of epithelial pegs.

**DISCUSSION**

Dr. F. Wise said the patient had been under his care a year before and was then covered with large patches that itched so much that he could not sleep. A biopsy was made and the condition was reported to be typical mycosis fungoides. He was given a careful and persistent course of roentgen-ray treatment, but showed no improvement.

Dr. W. B. Trimble said he had seen the patient on several occasions, the first time at the Skin and Cancer Hospital, when he had made the clinical diagnosis of premycosis, which was later confirmed by the laboratory. Since that time the patient had been presented by Dr. Wise with the same diagnosis. The patient finally presented himself at the Bellevue and University Clinic where the same diagnosis had been made. Even though the evidence in favor of premycosis was strong, he thought one should seriously consider the probability of its being parapsoriasis, the type erythrodernie pityriasis en plaque disseminée. The intense itching was of course against such a diagnosis but he was inclined to believe that this symptom was exaggerated by the patient. This was merely offered as a suggestion, since it should not be forgotten that pathologic examinations were not always correct, and there was just as much ground for a difference of opinion in pathology as in clinical medicine.

Dr. J. F. Fraser said the histological examination absolutely excluded parapsoriasis. It was typically a case of mycosis fungoides.

**TUBERCOSIS VERRUcosa CUTIS.** Presented by Dr. P. E. Bechet.

This case had been previously shown by the speaker at the meeting of the Section on Nov. 5, 1919, and was also from Dr. Trimble’s service. The patient was 51 years of age and had been operated on on April 4, 1917, for fistula-in-ano. A second operation was performed on Dec. 25, 1918. He stated that there was a rapid increase in the eruption during the three months previous to presentation. The eruption was limited to the anal region, and consisted of a large verrucous, papillomatous, hypertrophied patch with a seropurulent fluid in the interstices of the papillary projections. At the perineum there was some tendency to indolent, undermined ulceration. There was marked surrounding infiltration. A biopsy demonstrated the presence of giant cells with homogeneous centers and peripherally arranged nuclei.

**RADIO-DERMATITIS.** Presented by Dr. W. J. Highman.

Aaron M., presented a radiodermatitis—a chronic ulcer of the abdomen. He was radiographed ten years before for attacks of renal colic, but did not remember the length nor the number of exposures, nor exactly the time of onset of the dermatitis.
The radiodermatitis (telangiectasis, pigmentation and atrophy) extended from the ensiform to the pubis, and from the right to the left mammary lines. One inch above the umbilicus was a shallow ulcer about one quarter of an inch in diameter, which constantly oozed pus. The ulcer was first noticed at the time of the onset of the dermatitis. There was no clinical evidence of malignancy. The case was presented for suggestions as to therapy for the ulcer.

DISCUSSION

Dr. F. Wise expressed the opinion that radium should be applied in a case of this kind. If the lesion were excised, the skin would not heal. Radium was not only the last resort but the only hope of curing the condition.

Dr. B. Lapowski thought the lesion should be left alone and not interfered with beyond protecting it from irritation. Radium would produce the same result as the roentgen ray.

Dr. J. Kingsbury agreed with Dr. Lapowski that the less done to the case the better.

Dr. A. J. Gilmour suggested the use of gauze instead of cotton in protecting the condition, as it provided better aeration.

Dr. S. Pollitzer said that the consensus of opinion seemed to be that the patient should be let alone until the condition killed him. In his opinion there was a limit to the depth and extent of the tissue damage by the roentgen ray, and if one went beyond that limit the damage could be removed. Speaking of roentgen ray ulcerations in general (not of this particular case), he believed that whenever the locality made it possible they should be excised widely and deeply and the defect covered with grafts. He cited the case of a woman who had suffered severely from an ulceration as large as a fist lasting more than a year, in which this treatment was adopted, resulting in a cure of the condition. The operation was done not only to relieve her excruciating pains but to obviate the development of epithelioma, a risk to which all these patients are exposed. He believed this method should be followed in every roentgen ray ulcer where it was practicable.

Dr. Highman said he had stated his reason for presenting the case. If Dr. Pollitzer had seen the patient he would have realized that the treatment advocated was impossible in this particular instance as the affected area was a foot and a half in diameter. He had thought of carrying out the treatment suggested by Dr. Wise, as radium could cause nothing worse than the condition presented. It did not seem right to give up the case as hopeless, and there was little likelihood of stimulating the lesion to malignancy. In fact, he was not sure that it was an epithelioma at all. The man had not given his consent for a biopsy.

PSORIASIS AND DERMATITIS EXFOLIATIVA. Presented by Dr. E. W. Abramowitz.

Thomas M., was from the Vanderbilt Clinic. He was born in the United States, was 56 years of age, married and had one child. He presented himself at the Clinic with the history of having had psoriasis for nine years. He had had two previous attacks of dermatitis exfoliativa which had cleared up. As presented, there was a marked erythema with branny desquamation of trunk and extremities.
FOR DIAGNOSIS: LUPUS ERYTHEMATOSUS VS. LUPUS VULGARIS. Presented by Dr. Howard Fox.

E. G., a woman, aged 45, a children’s nurse, born in England, came to the United States four years before presentation. Her mother died of consumption; the family history was otherwise negative. She had suffered from measles and whooping cough as a child and from several attacks of articular rheumatism and tonsillitis as an adult.

The eruption was first noticed about twelve years ago, beginning as reddish spots on the skin which promptly disappeared under local treatment. The eruption then appeared on both cheeks in front of the ears, where it had persistently remained until the present time. These patches were red, dry, slightly scaly areas the size of a silver dollar. According to her statement, they were seen at the outset by Drs. Crocker and Pernet of London, who made a diagnosis of lupus vulgaris, explaining to her that the condition was a localized tuberculosis of the skin. About eight years ago a patch appeared on the right temple which promptly disappeared after using some “dark ointment.” During the past four months there had been a rapid extension of the disease. As presented, there was a solid sheet of eruption about 3 by 3 inches, extending from the hair line down on the neck, below the angle of the jaw. There was a semi-circular area below the left eye about 2½ inches in length. The original patch in front of the left ear remained unchanged. All of these lesions were solid patches with sharply marked borders, reddish, dry and showing a few small, easily detached scales. There was no evidence of scratching. All of these patches resembled lupus erythematosus. On the right side of the neck and chest was a circular patch about 4½ inches in diameter, which appeared to be made up of closely crowded, large pinhead sized, individual, slightly raised lesions. A superficial lupus vulgaris was suggested, although glass pressure failed to show any distinct apple-jelly nodules. The patient was poorly nourished, but appeared to be in good health. There were no signs of pulmonary tuberculosis. A biopsy had been made on the previous day.

DISCUSSION

Dr. S. Pollitzer said it was a case of unusual interest on account of the history. The distinguished dermatologists who had seen it made the diagnosis of lupus vulgaris, a diagnosis with which he could not agree. His reasons for differing were several. Of course, he recognized the difficulty at times of making a differential diagnosis between the two conditions, but in the first place there was the history of the lesions on the side of the face in front of the ears, which disappeared without any scars; and in the second place there was the extremely large patch on the upper chest which developed in four months. That a patch of lupus vulgaris should attain such dimensions in four months would be extraordinary. Finally, while there was a slightly papular character to the large patch on the chest, the lesions were not such as would justify the diagnosis of lupus vulgaris. Furthermore, Dr. Fox had been unable with the
diascopy to detect any lesions that would indicate lupus vulgaris nodules. For these reasons the speaker was strongly inclined to regard the condition as one of lupus erythematosus and not vulgaris.

Dr. W. B. Trimble said he had seen about three cases in his life in which he found it difficult to decide between lupus erythematosus or vulgaris, and this one made the fourth. The case was extremely difficult to diagnose, though if he had to decide from one examination alone he would call it lupus vulgaris. The grouping of the lesions on the right side of the chest and neck, through which area any number of papules were scattered, seemed to point against lupus erythematosus.

Dr. A. J. Gilmour thought the case was lupus erythematosus. He had noted some little scales on the chest lesions.

Dr. Fox said he thought the lesions on the face resembled lupus erythematosus, though the scaling was not characteristic of that disease, and that the patch on the chest resembled a very superficial lupus vulgaris, though diascopic pressure showed no brownish nodules. It would be necessary to wait for the histologic examination to determine the diagnosis.

Dr. W. B. Trimble remarked that the case resembled one that Dr. H. Fox had showed some years ago—that of a Swedish woman with lesions on the thigh. He remembered having photographed the patient for Dr. Fox.

INVOLUTED MYCOSIS FUNGOIDES. Presented by Dr. W. J. Highman.

B.G., a man, aged 38, had had his present illness for five years. He first consulted the speaker four years before presentation, suffering with a dermatosis giving the clinical picture of pityriasis rubra (Hebra). The condition had begun eleven months before, with the appearance of a scaling, itching spot on the left thigh. A rapid general evolution followed, and on Jan. 14, 1916, when first seen by Dr. Highman, the patient showed a generalized dusky red exfoliation, ectropion of the left lower lid, general glandular enlargements such as are observed in Hodgkin's disease, and emaciation. Sixteen pounds had been lost in eleven months. Microscopically, pityriasis rubra was suggested.

After unsatisfactory roentgen-ray therapy, the patient went to Jadassohn in Berne, in the summer of 1917. Here a diagnosis of an unusual form of mycosis fungoides was made. A microscopic study of an extirpated gland sufficed to exclude Hodgkin's disease. Under fractional doses of roentgen rays, the cutaneous manifestations involved, and when the patient was again seen in October, 1917, the skin was chocolate colored, but no longer scaled oritched, and the glands were smaller. Aug. 30, 1918, a few papules were found on his trunk, suggesting seborrhea. The skin was paler; no glands were palpable. On Jan. 9, 1920, the pigmentation of the skin had disappeared, and no evidence of the former condition was present.

Dr. S. Pollitzer said he had seen the patient some time before Dr. Highman observed him, and expressed regret that he had not known the case was to be presented, as he could have brought his notes with him. When he saw the patient, the condition was a typical case of dermatitis exfoliativa of the Hebra type, and there was no tumor-like thickening of the skin. The diagnosis of mycosis fungoides depended on two factors—the occurrence of diffuse infiltrations, which come and go rapidly, and the therapeutic result. As to the infiltrations, he would like very much to know about them. He understood that
Archives of Dermatology and Syphilology

no biopsy had yet been made. That was necessary for a diagnosis, for the fact
that the man had an exfoliative dermatitis and was cured by the roentgen ray
—if he was cured—did not establish the diagnosis of mycosis fungoides,
though it was to be admitted that Jadassohn's diagnosis of some peculiar
form of mycosis carried great weight. It was unfortunate that the diagnosis
had not been clinched by the examination of tissue. It was a most interesting
case, and it was to be hoped that both Dr. Highman and the patient would
live many years so that more could be learned about it.

Dr. Highman said that when Jadassohn wrote, he was about to leave
Berne for Breslau; he extirpated a gland and doubtless made an examination
of the tissue, but he said it was not Hodgkin's disease. The patient would not
allow another biopsy to be made. He intended to write to Jadassohn to learn
whether histologic examination of the skin had been made.

Multiple Abscesses. Presented by Dr. Howard Fox.

J. V., a man, aged 28, a laborer, born in Spain, three months before was
operated on for vesical calculus (suprapubic cystotomy). About a month later,
the eruption appeared on the abdomen. According to his physician's statement
this at first consisted of half a dozen superficial vesicopustules, which in about
one week became deep seated low grade abscesses, followed by necrosis and dis-
charge. Some of these lesions had healed; others were still crusted, and others
presented somewhat punched-out central openings. The lesions, about forty
in number, were scattered over the entire abdomen. In addition, there were
a few on the wrists, in both axillae and on the shoulders. They were deep-
seated, indolent, slightly painful, with considerable brownish infiltration of
the surrounding skin. The eruption had not been accompanied by any con-
stitutional symptoms. The patient was apparently in good health, and was
somewhat stout and showed a decided hypertrichosis of the trunk and extremi-
ties. Two Wassermann tests had been entirely negative. Two cultures had
been made in which only the Staphylococcus aureus was found. Five injec-
tions of an autogenous vaccine had been given, with some slight improvement.
A biopsy had been made recently.

Discussion

Dr. B. Lapowsky said that if there were any doubt about the diagnosis it
was advisable to transfer the lesion in imagination to some other locality—
say, to the leg—recalling conditions of the same type though not of the same
distribution. He could remember five or eight such lesions, beginning with a
deep destruction, rupia-like and leaving a scar. He expressed agreement with
what Dr. Fox had said, and suggested the application of Vleminck's solution—
removing the scabs first, then applying a weak dilution and later increasing
the strength.

Dr. G. M. MacKee said that an important point in the differentiation was
the history. There seemed to be a definite history of lesions at first super-
ficial and later becoming deep-seated. That would rule out tuberculosis or
syphilis. Beginning, as they did, as vesicles and papules and then becoming
deep ulcerations would naturally suggest a pyoderma.

Dr. W. J. Chargin said that the case brought to his mind a patient he
had seen some two years before who presented similar lesions, though not so
numerous. The affection in that patient was especially marked on the fore-
arms and legs and appeared after an attack of pneumonia. It was thought
that the affection was due to the pneumococcus, but that could not be demonstrated bacteriologically. The staphylococcus, however, was found and a considerable number of autogenous vaccines cleared up the condition entirely.

Dr. W. J. Highman said that clinically the nature of the disease was obvious, but the cause of the condition was a problem. A sketchy bacteriologic study was worthless for staphylococcus was always found. There was little doubt that the staphylococcus caused the lesions, but the case remotely suggested the condition caused by the Bacillus pyocyaneus. It was evident that the patient had a staphylococcus infection without cultivating the organisms. It was also reasonable to suppose that on account of the surgical shock there was some underlying disturbance of the system. Dr. Michael had suggested an amebic infection such as Engman had recently described. If a patch of the abdominal skin were stretched over the shins, it would be like an erythema induratum, and the patient might be suffering from the type of skin tuberculosis known as acne cachecticiorum. Certainly it was a bacteriologic and not a clinical study. Should the fusiform bacillus be found in the case, the patient might possibly be benefited by peroxid of hydrogen.

Dr. O. L. Levin said the case was of a type seen now and then at the Beth Israel Clinic. The patients usually showed a run-down condition. A hasty, superficial examination disclosed that the patient’s extremities seemed to be out of proportion with the length of the body; he was obese, showed an excessive growth of hair, hyperpigmentation, cold clammy hands and a small penis. If the blood were examined, it would probably show a hyperglycemia. The carbohydrate tolerance should be observed. The ulcerations and abscesses depended on a staphylococcus infection of the hair follicles, giving rise to a folliculitis, and on account of the poor general resistance the infection spread deeply and resulted in the breaking down of the tissue and the development of the abscesses and ulcers.

Dr. W. B. Trimble said that on a clinical examination alone the diagnosis would rest between a staphylococcus infection—which seemed to be the generally accepted opinion—and syphilis. Some of the lesions looked exactly like syphilis; they were “punched out” in appearance and there was a distinct loss of tissue. If the patient’s blood reaction was positive instead of negative, it would be interesting to know how many would call the lesions gummas. Deep ulceration of this nature due to the streptococcus—ecthyma—usually occurred in anemic, poorly nourished persons. This patient did not to him seem to be in bad physical condition, and should have the benefit of the therapeutic test before the diagnosis was made absolute.

Dr. Howard Fox said that in the formal discussion no one had mentioned syphilis until Dr. Trimble spoke of it. That was ruled out, he thought, from the appearance of the case. The lesions were bilateral and there was no grouping. They began as superficial vesicopustules, developing later into abscesses. Cultures had been made and more would be made. A section that had been taken might throw some light on the case. It did not seem to be an ordinary furunculosis as the lesions were indolent and almost painless.

**LUPUS ERYTHEMATOSUS.** Presented by Dr. I. Rosen.

M. D., aged 45, who had been in the United States sixteen years, had had the eruption for the past five years. The first signs of the disease commenced below the lobule of the right ear and spread backward. Then the left ear became affected. Two and a half years before presentation the mucous
membrane of the lips became involved, spreading on to the skin. As presented, there were numerous twenty-five cent sized patches on the back and others half that size. There was an oval scar on the left side of the neck, probably from a healed tuberculous adenitis. The patient also presented a patch of scarring and telangiectases on the right ear and mastoid region which were sequels to roentgen-ray treatment.

**CHRONIC EDEMA OF THE EYELIDS.** Presented by Dr. Howard Fox.

B. B., a man, aged 28, born in the United States, a plumber, previous to the beginning of the eruption, about thirteen years before, had suffered a severe traumatism of the head, remaining in bed one month as a result. He had also broken his nose once before and twice after the eruption appeared. During the past thirteen years he had had a great many attacks of swelling of the tissues about the eyes, including the cheeks and at times the ears. These attacks frequently followed some mental trouble or severe physical strain. They consisted of redness, swelling and increased temperature of the affected parts, associated with a burning sensation and a varying degree of constitutional symptoms. At times he would be confined to bed with chills, rise of temperature, and more or less prostration. The attacks were often considered to be attacks of erysipelas. They lasted from three to ten days, and in later years had appeared on an average of once a month. There was always a certain amount of swelling of the tissues about the eyes, which never subsided entirely between the attacks. In 1918 the patient was in military service for about four months, during which time he had one unusually severe attack following typhoid and smallpox vaccination.

He was at present under the charge of the U. S. Public Health Service and his case had been thoroughly investigated by the surgeons of this service. Examinations had been made of the heart, lungs, abdomen and genito-urinary organs, blood (including the Wassermann reaction, red cells, hemoglobin, differential leukocyte count and plasmodium), urine (including sugar tolerance test), eye and ear examinations, and roentgen-ray examinations with especial reference to the sinuses, sella turcica and signs of intracranial pressure—but all were negative. Under the impression that the case was one of angioneurotic edema, he had received a large number of protein skin tests, with negative results. Examination of the nose showed evidences of old fracture and a missing septal cartilage. Roentgen-ray examination of the skull showed evidence of a probable old fracture of the vault. A puncture of the tissues below both eyes failed to give any fluid from which a vaccine could be made. The patient was well nourished and between attacks appeared to be in average good health. He was presented as a case of the elephantiasic type of chronic edema, supposedly due to recurring attacks of an erysipelatous nature caused by a streptococcus infection arising in the nose.

**DISCUSSION**

Dr. E. A. Reed, U. S. Public Health Service (by invitation), said that he had had the pleasure of watching this patient for the past three months. During this time, while a patient of the U. S. Public Health Hospital, New York, he had had three acute attacks. The patient would feel irritable the day before and usually complain of constipation. He would notice the appearance of a small red area in the region of the inner canthus, which in time
would spread through the loose cellular tissue of the lids, forehead, scalp, cheeks and lips, with enlargement of the glands at the angle of the jaw and submental group. The swelling of the eyelids became so marked that the patient could not see. Pressure on the lids themselves would result in the escape of a small quantity of serous fluid from the nasal orifice on that side, although aspiration of the lid itself in the most careful manner revealed no fluid. With the onset of the first patch of inflammation, the patient complained of headache and of a drawing and tightening sensation, fever which reached 103 degrees and a chill which lasted three hours. Working on the assumption that it might be due to a disturbance of the vegetative nervous system, the patient was given atropin sulphate, 1/25 grain every three hours, until physiologic action was reached. The swelling subsided a little, but not to any marked extent. Constipation was relieved by enemas, after which he left somewhat better and noticed that some of the swelling disappeared.

He was tested by almost every method possible—protein sensitization, on the opinion that it might be a form of allergic poisoning; roentgen-ray examination of sinuses, skull and bones for a focal infection; examination of the tonsils and later removal of them; roentgen-ray examination of the teeth—all to rule out the possibility of a condition due to focal infection.

So far as the nasal condition was concerned, the man had had several injuries of the nose since childhood and had been operated on six times in the past seven years. Examination subsequent to the last operation showed a complete destruction of the nasal septum and mucosa, and opinions rendered by various rhinologists indicated that nothing could be done by way of repair and that the patient would probably suffer from this condition during the rest of his life.

Dr. J. E. Lane inquired about the duration of the lesion on the upper lip, and Dr. Reed replied that it was a herpes and had been there for six days.

Dr. Lane then inquired whether at any time there had been any evidence of an acute or chronic dacryocystitis.

Dr. S. Pollitzer said that the very complete history presented by Dr. Reed covered a very large field. The case in question belonged to a class that was not especially rare and the course and etiology were fairly well known. In his opinion, it was a case of chronic elephantiasis of the face due probably to a low grade streptococcal infection. A number of such cases had been presented before the Section. The only feature that would have to be proved was the streptococcal element; that was largely a matter of guesswork, but the streptococcus did produce this condition. An important etiologic factor seemed to be the repeated nasal trauma, which afforded opportunity for the introduction of the streptococcus into the neighboring tissues, and the periodic exacerbations were explained by the story the patient gave of having the attacks following excitement, which would be the immediate stimulus to the streptococci that ordinarily lay dormant in the tissues. It might be possible to make a streptococcus culture from the nasal cavity, and then with vaccines something might be done for relief. Etiologically the case was not a nervous condition, nor an endocrine disturbance, nor was the trouble in the bones—it was a low grade infection of the tissues resulting in a blocking of the lymphatics of the affected region.

Dr. E. W. Abramowitz said that at the Vanderbilt Clinic there had been three cases of this condition and they had been classified as elephantiasis nostras. One case showed involvement of both upper eyelids; the second showed enlargement of the right index finger, and the third, enlargement of the upper lip.
With Dr. Guy's collaboration a short chain streptococcus was discovered in the tissue from the lip case. It seemed probable that all these cases were due to an infection of the nose and adjacent sinuses. The use of a streptococcus vaccine had been of great help.

Dr. W. J. Highman cited a case of similar type in which an attempt was made to aspirate the lesions during an acute flare-up in the hope that the causative agent might be obtained. The procedure was successful and the patient improved under autogenous vaccines. A colonel in the regular army came into the hospital in this condition and the speaker was very anxious to try this treatment on him, but the officer was transferred before anything could be done. The pathology seemed to be the same as that described by Dr. Pollitzer. In attempting to rule out the possible source of infection, it would be well to remember that the body did not consist entirely of tonsils and teeth; various other elements enter into the composition of man. As Dr. Lane had pointed out, the patient's upper lid was more or less involved, and as Dr. Pollitzer had suggested the streptococci might have their derivation from the nose and might provide a lead for treating the patient successfully. Certainly the amount of work that had been done on the case was overwhelming.

PRURIGO NODULARIS. Presented by Dr. W. J. Highman.

A widow, aged 55, presented from the service of Dr. Whitehouse at the Post-Graduate Hospital, had a condition was of eighteen years' duration which itched intensely. New lesions were constantly appearing. The old ones did not fade.

DISCUSSION

Dr. B. Lapowski thought it was a sarcoid.

Dr. F. Wise said that the appearance of the lesions agreed with the classic description of prurigo nodularis.

Dr. Howard Fox said that clinically it resembled cases described as prurigo nodularis, although some of the lesions on the ankle suggested sarcoma. There were certainly marked evidences of scratching on the arm.

Dr. Highman said the lesions itched intensely, which was not characteristic of sarcoma, nor did the history of eighteen years' duration accord with Kaposi's or any other form of sarcoma. If it was sarcoma, certainly it was a benign, indolent, itching type—a new concept. The disease was just a name to him; it resembled the pictures he had seen and one case that had been pointed out to him as prurigo nodularis. He rested the case on that.

PIGMENTATION AND HYPERKERATOSIS. Presented by Dr. O. L. Levin.

R. K., an unmarried woman, aged 20, a native of the United States and a typist by occupation, had had recurrent attacks of psoriasis for four years. The attack from which she was suffering when presented began three weeks before, four days after sustaining a fracture of the bones of the left forearm. She had had neuralgic pains and eruption of blisters on the right side of the chest for ten days.

Her past history was negative except for scarlet fever and diphtheria at the age of 8. Her menstrual history began rather late, at the age of 16, the flow appearing every ten or twelve weeks, being scanty, persisting for only
two days and accompanied by dysmenorrhea. For more than two years she had
been taking daily doses of arsenic.

The skin showed a general eruption of various sized typical bright red scaly
papules and patches of psoriasis. The skin on the palms was thickened, dry,
 fissured and scaly. The hyperkeratosis was more marked on the left palm,
as the patient could not wash away the heaped up scales on account of the
splint. A similar condition was present on the plantar surfaces of both feet.
The skin, especially of the trunk, was of a light brown color and at points
of pressure, as along the waist line and axillary folds it was of darker hue.
There was a large herpes zoster on the right side of the chest.

SCLERODERMA. Presented by Dr. A. J. Gilmour.

C. C., aged 23, was a white woman, married, with two healthy children, a
boy of 6 and a girl of 8. The lesions began eight years before presentation
on the back of the little fingers and when presented involved all the fingers
and both hands. There was also a lesion on the chest of eight years' duration.

LICHEN NITIDUS. Presented by Dr. W. B. Trimble.

A colored man, aged 26, who had previously been shown before the New
York Dermatological Society, a native of the United States, had had the con-
dition about four months. The eruption consisted of thickly grouped small
pinhead sized, whitish-yellow, raised lichenoid papules on the backs of the
hands, shaft of the penis and extensor surfaces of the elbows. There were a
few scattered papules back of the ankles. The Wassermann reaction was nega-
tive. There were no subjective symptoms. A biopsy had been made and a
section through one of the individual papules showed a sharp lesion of the
papillary portion of the derma which had the general appearance of a granu-
loma. The epidermis above it was thinned and at the sides there was an
acanthosis. The infiltration consisted of epithelioid cells and small mono-
nuclear cells. No giant cells were found in the specimen.

DISCUSSION

Dr. S. Pollitzer said this was the first time a case of the kind had been
presented before the Section and the members appreciated the opportunity
of seeing it. The disease, which was first described by Pinkus of Berlin in
1907, was very rare, and, as he recalled the cases published, this one seemed
to fit perfectly with the descriptions and the histologic picture, showing the
granuloma, corroborated the diagnosis.

Dr. W. J. Highman said that Dr. Sutton had sent him a slide that corre-
sponded in every detail with the one presented by Dr. Trimble. It was inter-
esting to know that there were now two authentic cases in the United States.
Microscopically, a dense mass of round cells immediately under a thin epi-
dermis was seen. The picture was characteristic, and after having once seen
it one could not fail to recognize it again. The two specimens were almost
exactly alike though they came from sources two thousand miles apart.

Dr. B. Lapowski said that a number of cases had been presented with that
diagnosis although only two had been accompanied with a microscopic report.
As he recalled the matter, many cases had been reported in the literature.

Dr. W. J. Highman replied that only about thirty-five cases had been
reported in the world's literature.
Dr. Tremble said that in this country the cases were uncommon. As he recalled it, Sutton has mentioned only one other case besides his own. Sometimes giant cells were found in the sections, though none were found in this one. He would try to find these cells in another piece of tissue. The diagnosis was made clinically and was later confirmed by microscopic findings; few would think a microscopic diagnosis necessary after having seen the published photograph.

NEW YORK DERMATOLOGICAL SOCIETY


GEORGE M. MACKEE, M.P., President.

TINEA UNGUIUM. Presented by Dr. G. H. Fox for Dr. Howard Fox.

J. M., a full-blooded negress, aged 34, married, born in Cuba, who came to the United States about fifteen years ago, said the disease first appeared in the thumb nail of the right hand four years before presentation. During the following three years, all the nails of the right hand and foot (except those of the ring finger and fourth toe) became successively affected. On the back of the hand and wrist were some ill-defined, irregular, slightly thickened hyperpigmented areas. There was no evidence of paronychia. The affected nails in their entire extent showed marked dystrophic changes, being thickened, lusterless, brittle and of a dirty yellowish color.

Microscopic examination of scrapings soaked for two hours in 40 per cent. potassium hydrate showed an abundance of mycelia and spores. The patient had received one massive dose of roentgen rays.

DISCUSSION

DR. H. H. WHITEHOUSE said he had seen several such cases of tinea of the nails with dry dermatitis of the palms, and had wondered if the two conditions were associated. One case had cleared up under Whitfield's ointment.

DR. J. A. FORDYCE suggested that some of these afflictions of the nails might be parasitic, secondary to dermatitis of the fingers, and if investigated might show the presence of fungi. It was surprising how large a number of such cases are now seen. Ormsby's article had thrown a great deal of light on them.

DR. J. E. LANE agreed with Dr. Fordyce that the lesions on the hands were probably ringworm. Sometimes it was very difficult to demonstrate the fungi in these cases, and the fact that they had been demonstrated in the lesions of the nails tended to confirm the diagnosis.

DR. G. H. Fox said that it was a typical case of parasitic disease. Most of the nails were greatly affected, and one not at all. If the lesions on the hands were seen alone, no one would consider the condition parasitic, but taken in connection with the condition of the nails it was most probably a fungus affection. It certainly was not an ordinary ringworm.

DR. W. J. HIGHMAN said that since Ormsby's article was written he had reached the conclusion that most of the vesicular diseases of the hands and feet were due to some parasite. He could not say whether the claims made for Whitfield's ointment were correct, but most of these conditions cleared up under that treatment. From the work done by Sabouraud and others it seemed
probable that most of the nail conditions were caused by pyogenic fungi, not by
the ordinary epidermophytum. They presented a fruitful field for further study. Many cases of so-called occupational dermatitis of the hands of the vesicular type were probably fungus infections, the soil having been made favorable for their growth by the constant maceration of the hands in water, etc. They stopped when the work ceased, for the soil was no longer favorable. Many of them recovered under the use of Whitfield's ointment.

Replying to an inquiry by Dr. Fordyce, the speaker said that he had not in mind the occupational diseases connected with the use of chemicals and physical agents, but that he found in the dispensaries a large number of women employed in housework that were so affected, and he thought a large number of the conditions were really fungus diseases.

Dr. F. Wise thought these lesions were probably due to the tinea fungus, but was inclined to believe that many men erred in thinking most of the vesicular and bullous diseases of the hands and feet were due to ringworm; many of the diseases were really pompholyx, often due to nervous conditions.

Dr. W. B. Trimble said that since this patient had ringworm of the nails he was inclined to think that the other lesions were also due to the same fungi. The hand lesions could easily be cured, though there would be recurrences due to reinfection from the nails. He had just treated a patient with a second attack, in which the mycelium had been demonstrated. This patient had the disease on the nails of both his great toes, and the second attack, on the dorsum of his foot and between the toes, was due to reinfection from the nails. It would be very interesting to find out how to cure the nail condition permanently.

Dr. F. Wise said that he had cured several cases of ringworm of the nail with roentgen rays.

Dr. G. M. MacKee said that since the articles by Sabouraud, Whitfield and Ormsby had been published, dermatologists quite agreed that many of the vesicular eruptions of the extremities were due to fungi, but it did not seem to be so well established that the patches of slight erythema and furfuraceous scaling of the trunk and extremities were not infrequently due to fungi. Such eruptions were not infrequently seen in connection with ringworm of the nails. Several cases of ringworm of the nails had been seen in Dr. Fordyce's clinic in which there was a slight erethymatosquamous eruption of the palms and soles and the backs of the hands, together with patches of a similar nature on the upper arms and trunk. Cultures made from these lesions were positive.

The speaker agreed with Dr. Fordyce in thinking that Dr. Highman's assertion was too sweeping. The mere obtaining of a growth on a culture medium was not sufficient to establish a parasitic cause for an eruption. The organism would have to be identified and excluded as an accident and found in other similar conditions before allowing it to assume an etiologic rôle. He was in accord with Dr. Lane relative to the difference in efficiency between the roentgen-ray treatment of so-called parasitic eczema and that of the non-parasitic variety. Irradiation was efficacious in both types, but much more so in the nonparasitic variety. He had been disappointed with his own results in roentgen-ray treatment of ringworm of the nails.

In reply to a question by Dr. Lane, the speaker said that the beta rays of radium would kill bacteria to the depth of 2 mm. in a culture. The gamma rays of radium and of the roentgen-ray would not do this. In the living tis-
ARCHIVES OF DERMATOLOGY AND SYPHILIOLOGY

issues, however, roentgen rays and gamma rays gave rise to beta rays, which in turn might have some effect on the bacteria or fungi.

Dr. F. Wise said that in the cases he had cured he had the patients use boric acid ointment day and night, securing an absolute maceration of the nails, and then gave them a unit or a unit and a quarter of roentgen rays once in four weeks.

Dr. W. J. Highman said the method he had found most successful in these nail cases was to have the patient scrape the nails once a day and paint them with a solution of 1 per cent. solution of mercuric chloride in alcohol, and put 10 per cent. ointment of ammoniated mercury under the free edge. They usually cleared up under that treatment within from three to six months.

Dr. W. B. Trimble asked whether the recurrences were not always the same disease. It seemed that the lesions would clear up and reappear because not all the fungi had been killed.

ICHthyotic CONDITION WITH ERYTHEMA (For Diagnosis). Presented by Dr. H. H. Whitehouse.

The patient, J. K., a boy, aged 10, was seen for the first time. No other members of the family were affected. The eruption exhibited had been present for six weeks, but there had been a similar attack a year ago. According to the boy's mother, however, the child had had an ichthyotic skin all his life. There was also present a keratosis of the palms and soles. The diagnosis seemed to lie between erythroderma ichthyosiforme, such as the case described by Drs. MacKee and Rosen, or some form of pityriasis rubra pilaris.

DISCUSSION

Dr. G. H. Fox said the diagnosis of ichthyosis would cover the whole ground.

Dr. W. J. Highman thought the condition was ichthyosis. The boy also had a dermographism and the whole skin was irritable. The two factors would account for the condition exhibited.

Dr. W. B. Trimble agreed with Dr. Whitehouse's supposition that the condition was an ichthyotic erythroderma and would probably go on to excess formation of corneous skin, as did the case of the young woman who had been exhibited at the Skin and Cancer Hospital. There were lesions in the axillae and other places where it was not common to see ichthyosis. It seemed to him to be an early case of ichthyosiform erythroderma.

Dr. G. M. MacKee said that the difference existing between ichthyosiform erythroderma and ichthyosis vulgaris depended on the conception one had of ichthyosis in general. Those who had a broad conception of ichthyosis and included in the ichthyosis group various ichthyotic conditions—such as xerosis, keratosis palmaris et plantaris, ichthyosis hystrix, etc.—were unable to see any essential difference between ichthyosis and ichthyosiform erythroderma. All the symptoms seen in the latter condition were found in ordinary ichthyosis, but hardly ever in one patient. Ichthyosiform erythroderma was recognized by the presence of a universal generalized erythema or an erythema occurring in patches—a thickened horny layer, and the usual symptoms of ichthyosis, such as inactivity of the sebaceous and sweat glands, etc. The eruption was practically universal, always involving the flexures: in fact, as a rule, the maximum of development was in those locations. In addition, there was usually a
history of rapidly growing fingernails and also of the scalp hair. The patient under discussion showed more or less erythema, the adult type of nails, the universal ichthyosis, maximum involvement of the flexures, keratoderma palmaris et plantaris and a seborrheic condition of the face and scalp. All these features combined to make a diagnosis of ichthyosiform erythroderma of the mild type probable.

Dr. W. J. HIGHMAN said that in keratosis suprafollicularis or pilaris there were two types, the white and the red forms.

Dr. G. M. MacKee replied that an erythematous skin was sometimes seen in ichthyosis vulgaris. This was known years ago as ichthyosis rubra. In some instances the erythema was persistent, in others intermittent, and in still others recurrent.

Dr. J. KINGSBURY said that his conception was that there were recurring plaques of erythema and that these plaques would return from time to time. It was not a constant erythema, such as this boy presented.

Dr. G. M. MacKee replied that at times there was an exceedingly marked difference in all types of ichthyosis in summer as compared with that seen in winter. A skin that would show no more than a xerosis in the summer might present ichthyosis hystrix in midwinter.

EPITHELIOMA OF THE NOSE. Presented by Dr. J. KINGSBURY.

The patient was a middle-aged man showing almost complete destruction of the nose. He had been under observation off and on for about sixteen years and was presented with a view to obtaining suggestions for treatment—as to whether the condition might possibly be benefited by radium treatment or had better be let entirely alone. It was evidently a very slow growing condition. The patient stated that it began as a small pimple on the tip of the nose. A small piece had been excised a year before.

DISCUSSION

Dr. J. E. Lane thought there would be temporary improvement from roentgen-ray treatment, or perhaps radium would be better. It was not impossible that a permanent cure might be effected, if the lymphatic glands were not involved.

Dr. J. Kingsbury replied that the point was the slow growth of the lesion. It began when the man was 30 years old.

Dr. G. M. MacKee thought that in view of the fact that the patient had not been irradiated there would seem to be an excellent opportunity of curing the condition with either roentgen ray or radium. The disease was deep-seated and associated with considerable induration, and it might require several intensive filtered treatments to bring about the desired result. Not infrequently in these cases the first two or three treatments effected an improvement, while further irradiation proved ineffectual. This was apparently due to the fact that the tissues acquired resistance against irradiation. In order to avoid this possibility and also to bring about a cure with the smallest possible amount of roentgen ray, the speaker suggested that the patient be placed under a general anesthetic and a thorough curettage done—this to be followed by an intensive application of either filtered or unfiltered roentgen rays. A second such treatment at the end of a month might not be indicated, but with this small amount of treatment a subsequent relapse would also be
amenable to further irradiation. Furthermore, no time would be lost and no injury done to the tissue. If, for instance, the result of one treatment was not a complete or almost complete clinical cure, then it would be wise to again curet and apply acid nitrate of mercury for fifteen minutes, in accordance with the technic advocated by Dr. Sherwell.

Dr. J. Kingsbury said that the course suggested by Dr. MacKee sounded quite feasible. The only thing he had had in mind was a radical operation or perhaps to let the condition entirely alone. It was very slow growing and would probably go on for several years without much more trouble than it was now giving.

Dr. J. A. Fordyce said he had had more experience with trichloracetic acid and thought it better than acid nitrate of mercury. The latter agent had less penetrating power.

Dr. G. M. MacKee, in answer to a question by Dr. Fordyce, said that the only way the acid interfered with roentgen-ray treatment was through the production of a crust. If the roentgen ray were applied before the application of the acid or before the formation of the crust, then there would be no interference. Replying to a question by Dr. Wise, the speaker said that the application of an acid or of any irritant would make the skin more susceptible to irradiation and would enhance the effect of the roentgen ray, but in a case of epithelioma it would not be necessary to reduce the amount of rays administered because in the treatment of such a condition a little more or less reaction made little difference. In treating other conditions, however, the fact brought out by Dr. Wise would be an important one.

GLOSSITIS. Presented by Dr. F. Wise.

C. H., presented from Dr. Fordyce's clinic, man, aged 51, whose wife had never been pregnant, had had gonorrhcea thirty years before presentation but no chancre that he remembered. The condition seemed to be an interstitial glossitis. On the right side of the tongue were several barley-corn sized nodules which suggested a beginning epithelioma. These nodules had flattened out somewhat since the administration of arsphenamin and mercury.

DISCUSSION

Dr. J. A. Fordyce regarded the condition as a smooth atrophy of the tongue. It was difficult to say whether the nodules were beginning epithelioma or were specific lesions. One did not often see epithelioma begin in this manner.

Dr. J. E. Lane said that as the nodules had lessened in size since the injection of arsphenamin he thought a diagnosis of syphilis, not epithelioma, could be made, as there was now practically no appearance suggesting epithelioma.

Dr. G. H. Fox said that on a hasty examination it did not impress him as likely to be an epithelioma; it was more likely to be specific.

Dr. G. M. MacKee said that most of the cases of this kind that had been presented at the Manhattan Dermatological Society and at the Dermatological Section of the Academy of Medicine had been shown as examples of epithelioma developing on a gumma. Arguments for and against this possibility had been going on in the local societies for a number of years. The speaker had never seen an epithelioma develop on a gumma of the tongue, but had
seen it develop on leukoplakia, interstitial glossitis, smooth atrophy and in a
scar left by a gumma, but he had never seen the epithelioma develop during
the presence of the gumma.

DR. H. H. WHITEHOUSE asked Dr. Winfield about a case of epithelioma of
the nose on an ulcerating basis in which arsphenamin had been given and
which healed to a certain degree but failed to heal any further and the patient
still had a +++++ Wassermann reaction.

DR. J. M. WINFIELD replied that he had had another case of gumma of
the skin over the buttocks and they all healed under arsphenamin treatment
except one which was epitheliomatous; finally, after a surgical operation the
patient recovered.

DR. J. A. FORDYCE said that cases of gumma of the tongue were not com-
mon, and he cited the case of a patient seen some years before which healed
under treatment and later the patient developed an epithelioma at the site
of the gumma; but whether or not it had healed before the epithelioma de-
veloped he could not say.

DR. W. J. HIGHMAN told about the case of a syphilitic man with an
epitheliomatous lesion on the tongue, who was given arsphenamin at the
urgent request of his physician. The epithelioma grew rapidly. It was in
a very advanced state when the treatment was started, and it was given with
the idea that having the combination of gumma and epithelioma he might be
relieved of the one by antisyphilitic treatment. The speaker said he did
not think comparison could be made as to the rapidity of growth of a tongue
epithelioma during the pre-arsphenamin and the arsphenamin days. As Dr.
Fordyce had said, we have not yet had sufficient experience. It was, however,
conceivable that an epithelioma beginning and growing slowly in scar tissue—
the growth being held in check by the scar tissue—might, with the check
removed by arsphenamin treatment, spread more quickly; that, however, was
only a theory.

DR. W. B. TRIMBLE remarked that if arsenic could cause a keratosis on
a glabrous skin it might also cause considerable proliferation of a lesion in
the mouth. All were familiar with the fact that arsenic in the form of
arsphenamin would on occasions produce an exfoliating dermatitis, and in the
pre-arsphenamin days arsenical keratosis was also familiar. The latter con-
dition, as Hutchinson had pointed out, at times degenerated into epithelioma.
These facts might have some bearing on the question asked.

ERYTHEMA PERSTANS. Presented by Dr. J. M. Winfield.

A girl, aged 19, had consulted the speaker for a persistent redness of the
chin, cheeks, and forehead that began in June as a number of small acne-like
papules on the chin and right cheek. The papules were rapidly followed by
redness and swelling, which soon involved the chin, both cheeks and fore-
head. There was no history of infection. Her family physician, who was
consulted when the inflammation began to spread, evidently thought the dis-
ease was erysipelas for he painted the margins with tincture of iodin, which
had no effect. Later, he scarified one cheek and applied ichthyol ointment;
this seemed to aggravate the trouble. When Dr. Winfield first saw the case,
the skin was smooth, shiny and of a bright red color; there was no scaliness
until after the application of lotio alba. The patient seemed to be in perfect
health, her menstruation was normal, and she had never before had any skin
disease.
ARCHIVES OF DERMATOLOGY AND SYPHILIOLOGY

DISCUSSION

Dr. H. H. Whitehouse said that from the manner in which it spread and from the raised border and the definite symmetry it seemed to be an early case of lupus erythematosus. It would be interesting to watch the case with that in view. It seemed to be more than an erythema perstans. If it was of the superficial type, it might respond to iodoform internally and lotio alba externally. He had seen cases disappear entirely under 1 grain of iodoform three times a day. In the thickened discoid type, however, it had no effect whatever.

Dr. J. A. Fordyce agreed in the main with what Dr. Whitehouse had said, that it was probably a superficial lupus erythematosus.

Dr. J. E. Lane agreed with Drs. Whitehouse and Fordyce that the case was probably lupus erythematosus.

Dr. W. J. Highman said that it suggested the type described by Kaposi as erysipelas perstans faciei which might lead to death or become a chronic discoid or ordinary disseminated type or, at times, the discoid form of lupus of the face. In the last analysis, however, it would be necessary to watch the patient for a few weeks before determining whether or not it was a lupus, as seemed possible and, if so, what form it was. He had recently seen a young woman with a circular lesion on the left cheek associated with a pale discoid lupus erythematosus on the nose. The lesion on the cheek resembled a typical scaling ringworm and the patient complained of a curious band-like headache, suggesting a frontal sinusitis. She was referred to a laryngologist, who found an empyema of the antrum of Highmore which he relieved surgically, and the lesions on the face disappeared spontaneously. The speaker said he was not an ardent advocate of the theory of focal infection but it was possible that the condition of this patient was a skin reaction and might have one of several remote causes; therefore he had examined her systematically with that in mind.

Dr. W. B. Trimble agreed with what Dr. Highman had said and expressed the opinion that it was a superficial type of spreading lupus erythematosus.

Dr. G. M. MacKee said that if the patient had on the scalp or had had on any part of the body an undoubted lupus lesion the eruption that she exhibited on the face would unquestionably be regarded at once as representing an acute superficial lupus erythematosus.

Dr. J. M. Winfield said that when the girl first came under his observation the skin covering the chin, cheeks and forehead was smooth and shiny and of a bright red color, with a marked whiteness under the chin and around the nose. There seemed to be no indication for local treatment, nothing but an external application (lotio alba) was prescribed. He at first thought of lupus erythematosus, but on further study of the case could not bring his mind to accept that diagnosis; its resemblance to other cases of erythema perstans has caused him to present the case as one of that disease.

ACUTE PSORIASIS AND ZOSTER. Presented by Dr. J. M. Winfield.

The patient was a young woman who had had a number of attacks of psoriasis that had been treated at the Skin and Cancer Hospital. The present attack had lasted about three weeks and began during an attack of tonsillitis. The eruption consisted of small scale-covered papules distributed over the trunk, thighs and arms. In an artificial light the eruption resembled a papulosquamous syphilid. When the eruption appeared she began taking large doses
of Fowler's solution of arsenic, which undoubtedly accounted for the attack of zoster that began about ten days after beginning the arsenic. The lymph nodes were enlarged.

The patient was shown because of the occurrence of zoster during an attack of psoriasis, and also on account of the peculiar type of the psoriatic eruption.

DISCUSSION

Dr. H. H. Whitehouse said that undoubtedly it was a psoriatic case; the patient might also have syphilis and should be examined with that in view.

Dr. J. A. Fordyce said that the eruption might have been due to the arsenic—an arsenic eruption.

Dr. J. E. Lane said that undoubtedly the patient had all the diseases for which she was presented. It was extremely probable that all of the generalized eruption was psoriatic, yet this in some places was so suggestive of secondary syphilis that it would not be amiss to have a Wassermann reaction made. The absence of lesions on the mucous membranes added to the improbability of the syphilitic nature of any of the lesions.

Dr. W. J. Highman thought it was impossible to rule syphilis out from the condition presented, and expressed interest in knowing the final outcome of the case.

Dr. F. Wise could see nothing in the case except psoriasis and herpes zoster.

Dr. J. Winfield said the condition of this patient reminded him of one he had treated last year. A young woman had had what her family physician called follicular tonsillitis; two weeks after the throat symptoms had subsided, a generalized scaly eruption appeared over the body. The left tonsil was enlarged and indurated. Although the Wassermann reaction was negative, the induration of the tonsil and the syphilitic appearance of the eruption made it seem advisable to put the patient on antisyphilitic treatment; the treatment, however, had no effect on the eruption although the swelling of the tonsil disappeared. The Wassermann reaction remained negative. Six months after the beginning of the eruption, frank patches of psoriasis appeared. The patient gave a history of a number of attacks of psoriasis. The present attack was preceded by a sore throat, and the eruption was somewhat different from that in the other attacks.

Dr. Winfield said he had seen so many cases of acute psoriasis following tonsillar affections that he was strongly of the belief that there must be some direct relationship, between some forms of tonsil infections and psoriasis.

LUPUS ERYTHEMATOSUS IN A MAN OF 45. Presented by Dr. W. J. Highman.

The patient was presented from Dr. Fordyce's clinic and was a married man of 45, who had six children. The condition began in April of last year on both sides of the nose and spread all over the face.

The diagnosis was accepted without dissent.

LEPROSY. Presented by Dr. J. Kingsbury.

The patient, a native of Morocco, was a middle-aged man and had spent some time in France. It was not certain how long he had had the condition, but he exhibited the leonine expression and other characteristics of the disease.
Dr. J. M. Winfield remarked that the patient had a well developed ulnar nerve.

Dr. G. M. Fox said that years ago he saw a number of cases of leprosy improve under chaulmoogra oil, but that at the time he was in doubt whether it was the oil or the change of climate that caused the improvement. In his opinion, most of the patients that came to New York improved, if they were not scared to death, as some were.

Dr. J. M. Winfield said he had used the chaulmoogra-resorcin combination in a number of cases and all of the patients had received more or less benefit. He had been able to follow two patients for two years after leaving the hospital. One, a West Indian colored woman with mixed leprosy had apparently recovered after a year’s treatment; sensation had returned in some of the anesthetic patches and there had been no new symptoms in two years. The other was a Japanese with nodular leprosy, who had been treated for a year, with apparent recovery. All of the lesions healed and there had been no recurrence since leaving the hospital in the fall of 1918. All of the patients would sometimes have painful nodes after the injections, but these usually subsided in a week or so. In the case of the Japanese, the injections were given every three to five days in doses varying from 5 to 60 drops. Several times he suffered severe systemic reactions.

Dr. J. Kingsbury asked whether any of the members had tried arsphenamin with leprosy.

Dr. W. J. Highman said it was a waste of arsphenamin.

Dr. J. M. Winfield said he had given a patient a number of doses with no effect whatsoever.

EXTENSIVE KELOIDAL SCARRING AFTER A BURN. Presented by Dr. F. Wise for Dr. J. A. Fordyce.

Jerome B., aged 6, was presented from Dr. Fordyce's clinic. Five months before he set fire to his clothes with firecrackers and was severely burned over his back and right arm. He was treated with neutral solution of chlorinated soda at a hospital, but the healing was followed by extensive hypertrophic cicatrices resembling keloids. There was one isolated keloidal mass on the left side of the back of the neck, that extended anteriorly to the middle of the right clavicle. The larger keloid began at the inner side of the left scapula, then extended downward, involving the entire right side of the back and also the left lumbar region. There was also a keloidal mass on the inner side of the right arm.

DISCUSSION

Dr. G. H. Fox remarked that many cases which had been reported as keloids were simply hypertrophic scars with none of the nature of keloid.

Dr. J. A. Fordyce said he could not grasp the distinction between keloid and hypertrophic scar.

Dr. G. H. Fox replied that one was hard and painful, and the other would flatten down in time and could be easily destroyed without danger of recurrence, as in true keloid.
Dr. H. H. Whitehouse remarked that the theory of spontaneous keloid formation had been abandoned. If there was any virtue in the roentgen ray treatment, why not try it here?

Dr. G. M. MacKee said that if the roentgen ray were judiciously applied it would flatten the band down to a level with the niveau of the skin. The redness would persist for some months after the keloidal condition had disappeared, but it would eventually disappear. The sooner after the accident the lesions were treated the more readily they would respond. The mother, of course, was making a great mistake in waiting.

NEW YORK DERMATOLOGICAL SOCIETY

Regular Meeting, Feb. 24, 1920
George M. MacKee, M.D., President

HODGKIN'S DISEASE ASSOCIATED WITH CUTANEOUS TUMORS.
Presented by Dr. Howard Fox.

A. H. A., a man, 30 years of age, born in the United States, a grocer's clerk, was presented before the Society through the courtesy of the U. S. Public Health Service. As an ex-soldier he was being treated at the Polyclinic Hospital. When a child, he had suffered from measles, mumps and diphtheria. In 1911 he had had malaria, and in 1918, influenza and pneumonia. The condition for which he was presented was first noticed in January, 1919, as small marble-like lumps in the neck and scalp. In December, 1919, a gland was removed from the groin and from a histologic section a diagnosis of Hodgkin's disease was made, several Reed cells being found in the preparation. The patient now presented enlargement of the post-occipital glands and to a slight extent, of the axillary and inguinal glands. The blood picture was: hemoglobin, 75 per cent.; red cells, 5,660,000; leukocytes, 6,600; polymorphonuclears, 27 per cent.; eosinophils, 1; large mononuclears, 2; transitionalis, 2.

On the scalp and part of the forehead were numerous firm, hard, elevated, smooth, painless, dull red tumors. The patient was a man of medium size, well nourished. Twice recently while in the hospital, his temperature had risen to 101 F. Histologic examination of a section of one of the tumors of the scalp (made by Dr. Walter J. Highman) showed the tumors to be lymphogranulomatosis. (A full report of this case will appear in a later issue of the Archives.)

DISCUSSION

Dr. Trimble expressed his interest in the case. Although the tumefactions and infiltrated areas of the scalp strongly resembled mycosis fungoides clinically, it was known definitely that the man had Hodgkin's disease; therefore it was his belief that the skin lesions also were those of Hodgkin's disease. He had seen one other case of this nature—also in a man—which had been presented to the Section on Dermatology at the New York Academy of Medicine about a year and a half previously. In that case, the skin lesion was about the size of the palm and bore a resemblance to lupus; no distinct lupus tubercles were found, though the lesion had the coppery hue of the flat, smooth, infiltrated type of lupus vulgaris. The skin lesion had developed following
the surgical removal of a gland in the neck. The patient had been suffering from Hodgkin's disease for some time before the lesion developed.

Later a biopsy proved it to be pseudoleukemia cutis. His only reason for citing this case was that the condition did not look anything like the condition under discussion. It was, however, the granuloma type of Hodgkin's disease of the skin. He was very glad to have had an opportunity of seeing another clinical type of this condition and would look forward with interest to Dr. Fox's pathologic report.

Dr. Winfield said he had seen a case several years ago. The patient had a number of lesions similar to those in Dr. Fox's case. At first it impressed him as being mycosis fungoides, but there were a number of enlarged glands and these were examined and pronounced to be Hodgkin's disease.

Dr. E. A. Reed, U. S. Public Health Service (by invitation), said that he had seen five cases of Hodgkin's disease in ex-soldiers, and none complained of itching or presented true dermal lesions.

Dr. Trimble said that one of his assistants (Dr. Fraser), in a paper on the pathology of mycosis fungoides, had called attention to one case in which the skin lesions were identical with mycosis from a clinical standpoint, and the microscopic picture was that of Hodgkin's disease.

Dr. Winfield inquired whether Dr. Fraser had not reported five or six of these cases.

Dr. Trimble replied that Dr. Fraser's paper was based on six or seven cases of mycosis fungoides, though, as he remembered it, only one was of the nature just referred to.

Dr. Wise asked whether Dr. Fox recalled a case presented by Dr. Parounagian before the Manhattan Dermatological Society which turned out to be lymphogranulomatosis cutis. If Dr. Highman had the sections in the laboratory, it would be interesting to compare the microscopic findings in this patient.

Dr. Howard Fox, replying to Dr. Wise, said he had no distinct recollection of Dr. Parounagian's case. In this instance, the diagnosis would have to wait for the histologic report as it appeared impossible to make a differential diagnosis clinically between mycosis fungoides and a lympho-granuloma of Hodgkin's disease. The number of cases of the latter type recorded in the literature was very small.

PITYRIASIS RUBRA PILARIS. Presented by Dr. Trimble.

D. B., aged 13, stated that he had a hyperkeratosis of the palms and soles since early childhood. In July, 1919, he suffered a severe burn from contact with a third rail on which he fell from the elevated platform. He stated that the eruption on the body had since appeared. He presented several aggregated patches of acuminate papules on the trunk, mostly around the axillae and pubes. On the backs of the hands were follicular acuminate lesions pierced by broken hairs. On the trunk were a number of individual papules at the periphery of the patches. The boy showed evidences of some pituitary disturbance. The case had been presented from the speaker's service at the University and Bellevue Clinic by Dr. Bechet at the January meeting of the Section on Dermatology and Syphilis of the New York Academy of Medicine.
DISCUSSION

Dr. Williams said that some of the crusts said to be the result of burns resembled an ulcerating circinate syphilid more than any burn he had seen. The case was a curiosity.

Dr. Ketron (by invitation) said he had not seen many cases of this disease, but it was not his impression that it occurred in circumscribed patches as in the case presented but was more of a generalized infiltration of the skin.

Dr. Winfield said that the first patient he had ever presented before the New York Dermatological Society had these circumscribed patches, very much like ichthyosis.

Dr. Wise said that most of the cases of pityriasis rubra pilaris were generalized but had clear areas of skin between the plaque lesions; the patches were usually more or less rounded—that is, in the typical cases of the disease. In this instance, it would be wrong to ignore all the other conditions presented by the boy. He was, of course, a dyspituitary patient, and one of the men at the Academy meeting asserted he had cured a case of pityriasis rubra pilaris with no evidence of endocrine pathology, by the administration of pituitary extract. If that was true, one would be much more justified in treating a patient like this one with ductless gland extracts to see whether or not they would have any effect on the skin condition.

Dr. Winfield said that two or three years ago Dr. Sherwell was very enthusiastic about treating such cases with the pituitary gland. In the pityriasis cases he derived some benefit from using the pituitary extract. Such treatment seemed indicated in this case.

Dr. Trimble said that Dr. Ketron's query had already been answered. In most of the cases seen in New York the lesions occur in large patches, and it is only after the patients have been affected for many years that it becomes almost universal. In his opinion the case might be considered as generalized, since the lesions were scattered in different places over the body. The patient would probably have the condition all his life unless the treatment suggested should help him.

EPITHELIOMA OF THE PENIS: HEALED BY CURETTAGE AND ACID NITRATE OF MERCURY. Presented by Dr. Trimble.

A man, aged 62, presented himself at the clinic for the first time in 1913 with an epithelioma of the glans penis. At that time the lesion was about the size of a 10-cent piece and was superficial, ulcerating in the center, with no distinct border; it was situated on the upper surface of the glans, midway between the meatus and the corona glandis. The duration of the condition was six months. Even though the duration was long, it was natural to suspect a venereal ulcer in this location, and consequently the man was put through various tests. The Wassermann reaction was negative. Local treatment and rather intensive treatment with mercury and iodid of potash had no effect. Biopsy proved the case to be epithelioma.

The patient refused amputation, and after a time the operation of curettage and cauterization was performed. An especially good result was obtained. The patient was presented to show the result of treatment seven years after operation. The scar was smooth, there were no glands, and the patient was apparently cured; what would happen, no one could say.
During the last two years the patient had developed a number of small papules on his nose and along the hair line over the ears. These papules were slow in development, necrotized in the center and left scars. The diagnosis of this condition was acne necrotica. On account of the skin affection of the nose, another Wassermann test was made, which proved to be negative.

**DISCUSSION**

Dr. Williams said that the case presented a most excellent result of the treatment of epithelioma. When the patient was presented at the Academy of Medicine for the acne varioliformis, he had noted papules on the nose but they were not hard and firm and seemed rather superficial to sight and touch, and it appeared to be rather an early case of rhinophyma in which the lesions and atrophy were quite limited; but it did not seem to be acne varioliformis. As the condition had cleared up without treatment, he adhered to his original diagnosis.

Dr. Wise said that, basing his experience on two analogous cases, he agreed with Dr. Trimble that probably the man did not have syphilis. The scars on the nose might be produced by acne varioliformis. He repeated his opinion that Dr. Trimble's diagnosis was correct.

Dr. MacKee said that both Dr. Trimble and the patient were to be congratulated on the splendid result. In his own opinion, any one of several therapeutic measures, if properly applied, would effect a local cure in cutaneous squamous-cell epithelioma. The chief requisite was to diagnose and treat the lesion before metastases occurred. In some instances a lesion of metastatic cancer might grow to considerable proportions before invading the lymphatics. Conversely, metastasis might occur during an early stage of evolution. Furthermore, the metastatic nature of the growth might not be revealed for two or three years subsequent to local cure.

On account of the grouping, the lesions on the nose suggested the possibility of an ulceronodular syphilid. The eruption probably represented an acne varioliformis, but the possibility of syphilid should not be ruled out definitely.

Dr. Trimble said that the diagnosis was absolute, so far as the penis was concerned, and in his opinion the lesions on the nose were those of acne necrotica.

**MANHATTAN DERMATOLOGICAL SOCIETY**

Paul E. Bechet, M.D., Chairman  
Regular Meeting, Feb. 10, 1920

**BLASTOMYCOSIS (†).** Presented by Dr. Ochs.

S. M., a woman, aged 23, single, born in the United States, a dressmaker, presented on the anterior surface of the lower third of the left leg a somewhat sharply defined papillomatous area about the size of a dime; adjacent to it was another but smaller papulopustular area with central papillae which were greatly hypertrophied. When the skin was pressed, a purulent discharge came from many different points, especially from between the papillae. The borders of the patches were slightly elevated, moderately infiltrated, and slightly red. The condition had begun about eight weeks before as a small papule, which
quickly broke down, discharging pus. A second one appeared a week or so later, and since then another lesion had appeared on the leg. There was nothing on the body. The patient stated that she had taken three headache powders about a week before the condition appeared; they were somewhat salty in taste.

Dr. Ochs said that the condition was very similar to that of a colored woman whom he had presented, with lesions on the back of the foot. On account of the papillomatous condition and the rapidity of development, he presented the case with a tentative diagnosis of blastomycosis. There had not yet been time to study the case microscopically.

**DISCUSSION**

Drs. Wise and MacKee thought it was a bromid eruption.

Dr. Wallhauser also was inclined to the diagnosis of bromid eruption, but would not rule out blastomycosis without a microscopic examination.

Dr. Rosen said that before making a diagnosis of bromid eruption, a blastomycosis or ringworm infection should be ruled out. The patient had taken one or two powders some time ago, but what drugs were contained in them she was unable to state. It was unusual for a bromid eruption to appear two months after the ingestion of such a small quantity, granting that the patient had taken the drug.

Dr. Bechet agreed with Dr. Rosen in questioning the diagnosis of bromoderma. The case certainly resembled a blastomycosis. The possibility of the lesions being tinea profunda should be taken into consideration.

Dr. Ochs said that he had seen the patient only once before presenting her and that he had definitely stated that it was only a tentative diagnosis. The patient had said nothing to him about having taken headache powders, but stated she had taken no medicine. Evidently the diagnosis lay between these two conditions; but the newer lesion appeared six or seven weeks after the first. The location was not an unusual one for blastomycosis, as it might appear on the lower extremities, especially in women, as one of the textbooks stated. Also the description of the case fitted blastomycosis rather than bromoderma. In bromoderma he had not been able to find pus exuding from the lesions. He would, however, endeavor to find out what the patient had been taking and report on the case later as to whether or not blastomycetes were found.

**LUPUS ERYTHEMATOSUS.** Presented by Dr. Levin.

Mrs. D., aged 45, with two living children, who had been presented previously at a meeting of the Academy Section, about five years ago had had a lesion on the scalp which now involved the scalp and affected the lower lip. The treatment which had been applied might have had something to do with the appearance presented.

**DISCUSSION**

Dr. Wise said that the lesion on the lip made him sure of the diagnosis, and the distribution also favored lupus erythematosus.

The diagnosis was accepted without any dissent.

**GEOGRAPHICAL TONGUE (?)**. Presented by Dr. Wise.

A. B., a girl, aged 10 years, from Dr. Fordyce's clinic, was first seen five days before since when the lesion had somewhat diminished in size. The
lesion was on the right side and dorsum of the tongue and consisted of ulcerated spots which had been there, sometimes better and sometimes worse, for four years. There were no jagged teeth to account for the condition and there was no pain. The diagnosis seemed to rest between geographical tongue and the so-called lozenge-shaped plaque of the French.

**DISCUSSION**

Dr. Wallhauser agreed with the diagnosis of transitory benign plaque. The lesion was circular and the border interrupted as though disappearing.

Dr. Ochs thought it was a case of geographical tongue. It was very similar to the case of the woman he had presented in October. He thought, however, that the history was faulty. These lesions appear and disappear.

**NEURODERMITE. Presented by Dr. Wise.**

A negro man, from the service of Dr. Fordyce at the Vanderbilt Clinic, who had appeared for the first time that day, presented lesions on both sides of the back and on the inside of the thighs. The diagnosis seemed to rest between neurodermite and lichen planus, and the patient was presented for inspection and for decision as to the propriety of either diagnosis. Small aggregate polygonal papules appeared on both sides of the neck and thighs. The papules were shiny and glistening, slightly raised, some showing umbilication. No eruption was present in the mouth or on the penis.

**DISCUSSION**

Dr. Ochs agreed with the diagnosis of neurodermite and ruled out lichen planus entirely. He had before called attention to the fact that in colored people, as a rule, the lesions of lichen planus can be distinguished—being semi-depressed and quadrangular, and having a hyperpigmentation around the edge. In this case there were no lesions anywhere that suggested lichen planus, and the color for lichen planus was lacking.

Dr. MacKee disagreed with the diagnosis and expressed the opinion that Brocq's interpretation of neurodermite was too broad, for Brocq included under that heading lichen planus with mosaic formation. While he disagreed with the diagnosis, he was willing to admit that the eruption might develop into that condition. The diagnosis would be proved by biopsy, but he had not seen a case of neurodermatitis in which the lesions were at first distinctly papular and then formed a mosaic as in lichen planus. It did not seem necessary to consider neurodermite. Contrary to what Dr. Ochs had said, the upper and inner part of the thighs was a favorite location for lichen planus, and the patient had there what to the speaker appeared to be typical lichen planus lesions—some of them distinctly umbilicated, etc. Clinically, he would consider this a case of lichen planus with mosaic formation.

Dr. Oulmann disagreed with the diagnosis. The follicular lesions on the neck did not correspond to lichen simplex chronicus. There were also follicular lesions under the axillae, and in the groin such as are seen in eczema of those regions.

Dr. MacKee said that circumscribed neurodermatitis, as he understood it, began with itching. In this case the condition began as papules and ended with lichenification and itching, exactly the opposite course—unless one accepted Brocq's very broad designation.

Dr. Wise said that a biopsy report would be submitted at the next meeting.
PARAFFINOMA. Presented by Dr. Kingsbury.

A woman, who presented numerous large tumors of the face, had been given antispetic treatment and had also been treated for sarcoid by a well known physician. The patient stated that some years ago she had been treated by a beauty doctor and that the face had been swollen since April, being sometimes better and sometimes worse. Dr. Kingsbury said that he did not place much reliance on the history given, and that he considered it a case of paraffinoma.

DISCUSSION

Dr. Wise said that about fifteen years ago a similar case appeared at the Post-Graduate Hospital, and later the woman developed a sarcoma from the paraffin tumors, of which she soon died.

Dr. MacKee agreed with the diagnosis of paraffinoma on account of the location and the appearance of the lesions. By persistent pressure one could get a thinning of the paraffin, which comes with edema. Surgery was often invoked to overcome such conditions, but it did not often prove satisfactory because of the connective tissue network rendering it impossible to remove the paraffin without enormous destruction, causing the patient to look as bad after the operation as before.

Dr. Rosen doubted the diagnosis of paraffinoma. The patient might have had paraffin injected, but according to her statement that was done eleven years ago, and it was difficult for him to understand why such a process should remain quiescent for ten and a half years and then appear as hard edematous masses. It seemed probable, as Dr. Wise had suggested, that the condition was a rather slowly developing sarcoma.

Dr. Gilmour recalled the case of a boy, seen years ago in the Roosevelt Clinic, who gave a history of paraffin injection for depressed cheeks and who presented the appearance of having a marble in the tissue of each cheek. An incision was made from the inside of the mouth and an attempt made to remove the foreign material from the meshwork of tissue. It was not a solid mass but came out like rice grains. The condition was improved by the operation. In the present instance he thought the effect of persistent pressure was due to the secondary edema rather than to the filtering of the paraffin itself. In the case he had referred to, the masses not only looked like a marble but also rolled around under the finger like a marble.

Dr. MacKee said that the paraffin was simply a foreign body which might remain harmless for years and then set up an inflammation. Two years ago, a patient in whom the result was satisfactory from her point of view, as the injection had overcome the wrinkles, had consulted him, but some time later the tissues rebelled and inflammation resulted.

Dr. Bechet said the sharply margnated, boardlike infiltrations did not look like sarcoma, and the lesions were too diffuse and uniform in distribution for that condition.

Dr. Satenstein said that when paraffin was injected for beauty work, usually small quantities were injected, just enough to fill out the depressions. There must have been a paraffin injection here, but the woman said that two years ago she had had all kinds of applications put on her face. The condition now seemed to be a distinct sarcoma as the result of a foreign body in the tissues.
Dr. Rulison (by invitation) said that at different times and at different intervals there was marked edema so that it was almost impossible for the patient to open her eyes. Underlying the edema were rocky masses. The edema at the time of presentation was slight; it might not be significant since it was markedly variable.

Dr. Kingsbury expressed the opinion that the edema was entirely dependent on the inflammatory changes produced by the foreign body. The coming and going, or the increase, was a purely mechanical condition secondary to the foreign body. As Dr. Satenstein had said, not much paraffin was usually injected, but the tumors form around the foreign bodies, and if one cuts into the lesions one gets the little granules of paraffin with this fibrous tissue change around them. The possibility of malignancy occurring in this condition was to be considered seriously. Although he was hardly prepared to accept the diagnosis of malignancy now, it was possible that a malignant change might occur. At present, the condition seemed to be simply paraffinoma.

GUMMA OF FOREHEAD. Presented by Dr. Parounagian.

V. C., aged 24, a woman, born in the United States, who gave a negative family history, had been married ten years. One child had died at the age of 1 week, and she had had one miscarriage at four months. She had been operated on for appendicitis after the miscarriage. She also said that she had had inflammatory rheumatism six years ago, and an operation for gallstones four years ago. In February, 1919, she bruised her forehead against a door. About December 10, a small red pimple appeared at the site of the bruise. The lesion was about the size and shape of the head of a match. She opened the lesion with a safety pin and squeezed out clear serum. Following this, the sore spot grew rapidly. She consulted a physician twice, without improvement. Then she visited a west side dispensary where she was given a lotion, and a Wassermann test was made. She was then referred to the Bellevue Clinic with the statement that the Wassermann reaction was ++++. Another Wassermann test, made February 6, had not been reported on. She was given one dose of neo-arsphenamin, 0.45 gm., on February 9.

DISCUSSION

Dr. Gilmour suggested the possibility of periostitis. The pain was greater at the base of the lesion than at the top.

Dr. Kingsbury said there was a large group of papules at the border, and it seemed probable that the woman had a papular syphilid of the forehead which became infected; the lesion did not seem to be a true gumma.

Dr. Gilmour said that an infection existing for that length of time would have been more broken down. He had seen several higher up on the forehead, but the patients were in a surgical clinic.

Dr. Parounagian said that so far as the location was concerned it was typical. He had seen several gummatous lesions in that location. The patient’s description of the manner in which the lesion began might not suggest it; nevertheless he still regarded it as a gumma. No doubt there was periostitis accompanying the lesion and some pyogenic infection as well. The Wassermann reaction was ++++. She was first seen on Friday when a mercury injection was given, and arsphenamin was administered Monday. After the arsphenamin injection, the lesion became aggravated. No local application had been made. He hoped to present the case again at the next meeting.
ERYTHEMA PERSTANS. Presented by Dr. Wise.

M. C., a boy, aged 9, from Dr. Fordyce's clinic, whose condition was of three years' duration, with intermissions, and who had been presented more than a year ago at one of the meetings, presented a widespread eruption over the face and trunk, consisting of slightly edematous, smooth, isolated and coalescing areas that varied in size from a dime to areas several inches in diameter. The color also varied from light to dusky red. There was a remarkable resemblance to adult mycosis fungoides. The right eyelid was also involved. This was the fourth appearance of the eruption in the child, the lesions becoming scaly and pigmented before disappearing.

Dr. Wise said that the rash which the boy exhibited at the time of the presentation was the result of phenolphthalein, which he had been taking. The mother had stated that when he took a dose there was a recrudescence of the lesions. Dr. Abramowitz had written an article on the subject of phenolphthalein rash.

EPITHELIOMA (?). Presented by Dr. Wise.

G. F., a negro, aged 47, from Dr. Fordyce's clinic, on entering the clinic for the first time about a year ago, presented a lesion which was covered with various applications so that it was impossible to get a clear view of it, and at the clinic they were undecided as to whether it was a basal cell epithelioma, a lupus, or some other condition. The probability of its being a basal cell epithelioma seemed greater now than before; however, the edges of the lesion had not the pearly character that one would expect. The biopsy report would be submitted at the next meeting.

DISCUSSION

Dr. Satenstein said it was either an epithelioma or a broken down gumma. The man gave a history of having had a nodule which remained stationary for more than two months, then broke down and had been growing larger since.

Dr. Gilmour asked why, if there was a nodule which had been there for two months and which had then broken down, one could not have a nodule, not necessarily from a broken down gumma, but perhaps from an inverted hair in the lesion acting as a foreign body.

Dr. Parounagian did not agree with the diagnosis of epithelioma on a syphilitic base, but thought it was a clean cut epithelioma.

Dr. MacKee thought epithelioma the most likely clinical diagnosis; and until it was verified microscopically he saw no reason for bringing gumma into the discussion. He had never seen an epithelioma develop on a gumma, though he had seen an epithelioma on a scar from a gumma.

ARSENICAL PIGMENTATION. Presented by Dr. Parounagian.

E. D., woman, aged 35, a Roumanian seamstress, who had been married for fourteen years, with a negative family history, said she had had pneumonia at the age of 14, three attacks of erysipelas, and pleurisy. One child had died at the age of 5 weeks in 1906. She stated that the child was covered with a "white rash" around the mouth. She had two subsequent miscarriages, one at two months and one at less than two months. She had been separated from her husband for the past seven years. For fifteen years, she had suffered from
severe frontal headaches at irregular intervals, often accompanied by nausea and vomiting. In December, she came to Bellevue Clinic and was admitted to the wards for ten days. A blood test made at that time was positive. She received one arsphenamin treatment while in the hospital. In the outpatient clinic she had received three arsphenamin and two mercury treatments. The last arsphenamin treatment was given on January 15. Two days later, a rash appeared, which was at first localized on the hands and feet and later became general. The rash had persisted for three weeks. The eruption was very itchy, but never moist. The feet were now peeling. The pigmentation was very much more distinct in daylight than by artificial light.

DISCUSSION

Dr. Rosen said he thought it was very remarkable that with all the arsphenamin injections that had been made in the last eight or ten years there had been so few arsenical pigmentations from the enormous amount of arsenic that patients had been receiving. He doubted if this pigmentation would be permanent; it would probably be absorbed in the course of a few months.

FOR DIAGNOSIS. Presented by Dr. Oulmann.

F. D., man, aged 37, of Italian descent, a junk dealer, who had been dismissed from service in France for about a year, about eight weeks before presentation, although a healthy young man with no venereal history whatsoever, developed what he called a pimple, which broke down, increased in size, and formed a deep ulceration extending into the cutis, being oval in shape, 4 by 2 inches in size, with highly raised edges. The surface of the ulcer, which was secreting freely, was uneven, having small holes where the ulceration was deeper than elsewhere. At the onset, the patient felt only a slight burning, but later pain was felt in the region of the hip. Six weeks after the appearance of the first ulcer, which healed under Alpine rays and antiseptic treatment, the skin nearby became pinkish red at a spot of about lentil size, and a pinhead sized superficial gangrenous ulcer appeared which grew steadily larger until at the end of a week it was the size of a dime, and after two weeks it was the size of a silver quarter. Since that time a third small ulcer appeared below the first one, which was filling in and showed healthy granulations. The patient suffered from increasing pains which deprived him of sleep. The lesions were located on the left side of the abdomen below the navel; and the patient said that he noticed a rumbling of the intestines of that region and a sensation of drawing together at those spots. Smears showed neither Ducrey, gonococci, nor any other germs except a few fusiform bacilli; cultures on all kinds of mediums revealed nothing. The man had returned from France too long ago to attribute the condition to sand-fly bites; it rather seemed to be a spontaneous progressive gangrene of the skin. The Wassermann reaction was negative.

DISCUSSION

Dr. Satenstein said that the lesions were common in Palestine, where he had been; and they were there attributed to the sand-fly bite. They started there just as this young man had described, and grew to be very large. The border was often more raised than in this instance and as a rule there were from five to seven or more lesions. The patient said that he had been in
service over there and in France. It was a very common condition in the Orient. The pathology was that of granuloma. The sand-fly is a very small insect, smaller than a mosquito, with milky white wings. The bite causes a small nodule which is very painful and itchy, and leaves a scar when it disappears. Dr. Satenstein said that he himself had some of these scars on his hands and legs but had been fortunate enough not to develop any ulcerations. In the army, they had hundreds of these cases and a great deal of bacteriologic work had been done; they found breaking-down granuloma—also a fusiform bacillus and a coccus.

Dr. Rosen said the case reminded him of one seen at the Vanderbilt Clinic. That patient was a colored man with a lesion on the penis who had been treated for syphilis for some time although repeated dark field examinations were negative and repeated Wassermann tests were negative. Treatment consisted of the administration of arsphenamin and mercury, but there was no improvement. The resemblance to this case was marked. There was a distinct raised border, resembling a basal celled epithelium. The lesion was excised, and the pathologic examination revealed a granuloma. Microscopic and cultural examination revealed the Ducrey bacillus. This bacillus was also found on aspiration. If the case were examined bacteriologically, the Ducrey bacillus might be found.

Dr. Kingsbury suggested that chancre be ruled out first. The patient had been in France and had had the lesion for eight weeks. In France, they had a chancroid which was unlike anything seen here and we knew nothing about it.

Dr. Satenstein said the Ducrey bacillus did not cause a granuloma.

Dr. Bechet said that he had recently abstracted an article from the Annales des maladies vénériennes on atypical chancroidal ulcerations. The descriptions of some of the cases seemed to fit Dr. Oulmann's patient. This case might come in that category.

Dr. Parounagian said that the ulcerations on the abdomen were entirely different from those seen in gonorrheal infections of the abdomen. They were simply broken down, undermined channels, some of them joined together, an ulcerative condition under the skin, not sharp, clean, round patches such as this patient presented.

Dr. Oulmann said that when he first saw the large lesion, it was much deeper, about an inch in depth. The lesion was healing now. He would have a biopsy made and report on it later. A later culture revealed Ducrey's bacillus.

ACNE: OR PAPULONECROTIC TUBERCULID. Presented by Dr. Wise.

T. T., aged 28, who appeared at the Vanderbilt Clinic for the first time on the day of presentation, exhibited acne of the face, back, chest, and upper arms, and in addition had a rash on his thighs, buttocks, and forearms. Some of the physicians thought it was nothing but acne, but the presence of the lesions on the arms and other locations where acne does not appear suggested a papulonecrotic tuberculid with the acne. The question was whether the patient had, in addition to acne vulgaris, an acne cachecticorum. There were lesions which more resembled an acnitis. On the thighs he had violaceous and yellowish lesions which were not acne lesions. A Wassermann test had been made, but the result was not yet known.
ARCHIVES OF DERMATOLOGY AND SYPHILIOLOGY

DISCUSSION

Dr. Parounagian considered the condition a marked case of acne vulgaris. Dr. Kingsbury agreed with Dr. Parounagian.

Dr. Wallhauser also was inclined to agree with the diagnosis of acne vulgaris. There seemed to be no connection between the scars and the lesions presented. The scars were present long before the eruption shown appeared.

Dr. Rosen agreed with the diagnosis as presented. He had never seen any case of acne vulgaris with lesions on the lower extremities. The patient also had distinct scarring in the scalp. It seemed to be a papulonecrotic tuberculid on the body with a possible acne varioliformis on the face and head.

Dr. Bechet expressed the opinion that the lesions on the forearm, particularly on the extensor surface, did not resemble acne. A few seemed to have necrotic centers, and those that were punched out were typically like those following resolving papulonecrotic tuberculids. There were lesions with necrotic centers at the hair margins. He was inclined to agree with the diagnosis presented.

SYPHILODERMATA AFTER INTENSIVE TREATMENT. Presented by Dr. Gilmour for Dr. Levin.

R. A., a carpenter, was first seen on Nov. 11, 1919, at which time he had had an ulcer on the penis for ten days. Examination revealed a typical chancre on the penis. Calomel had previously been applied to the lesion, and he had received one injection of mercury. Spirochetes were not found and the Wassermann reaction of the blood was negative. The patient had been married two months and his wife showed a florid secondary syphilitic eruption, with a +++++ Wassermann reaction.

The patient was sent to the Beth Israel Hospital Clinic, and between Nov. 25, 1919, and Jan. 10, 1920, he received eight intravenous injections of arsphenamin in doses of from 0.3 to 0.5 gm. He could not go to the clinic for the mercury injections. He returned to the clinic, February 4, saying that he had had influenza for three weeks and that the eruption had appeared ten days before his return. He presented an eruption consisting of lesions varying in size from that of a lentil to that of a nickel. They were firm, coppery, infiltrated, scaly lesions with wrinkles like cigarette paper on the summits of some. The eruption was most marked on the buttocks. The Wassermann reaction on the day previous to the presentation was +.

NEUROTIC EXCORIATIONS WITH LEUKODERMA-LIKE LESIONS. Presented by Dr. Parounagian.

A. A., aged 41, born in the United States, and single, a waiter, had a negative family history except that the maternal side was tuberculous. Two brothers and one sister were alive and well. He had had the usual diseases of childhood. For many years, he masturbated excessively, and attributed much of his trouble to that habit. He had typhoid fever at the age of 21, a mild attack with a relapse. He said that he had had a chancre fifteen years ago, but there was no scar and no evidence of syphilis. The Wassermann reaction, Jan. 14, 1920, was negative (Bellevue).

The patient stated that about three years ago he noticed "grub-worms" on his nose and face and neck, which he had to "dig out" with his fingers. He stated further that these excoriations would heal in a few days if left alone, but that he had to "dig out" the remaining "grub-worms."
He presented leukoderma-like lesions on the face, neck and buttocks, also recent lesions on the nose. One on the left side of the nose was produced the previous night. The patient stated that he worked all night to dig the worms from this area.

**DISCUSSION**

Dr. MacKee stated that a distinction should be made between dermatitis factitia and neurotic excoriations. In the former case, the patient produced the lesions and denied the act: in the latter case, the lesions were produced by scratching or picking in an endeavor to relieve imaginary symptoms or to remove imaginary insects; there was no intent to deceive. The case under discussion appeared to be one of neurotic excoriations.

Dr. Rulison (by invitation) said the lesions were caused by the finger nails. The man had never used any irritant or caustic.

Dr. Parounagian said he had not noted any keloidal lesions, but that if the patient were not careful, an epithelioma would develop at the edge of the nostril. He had been warned not to touch the lesion but had come in again that day with places that he had dug out.

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**CHICAGO DERMATOLOGICAL SOCIETY**

*Regular Monthly Meeting, Feb. 18, 1920*

**Dr. David Lieberthal, Presiding**

**A CASE FOR DIAGNOSIS.** Presented by Dr. Mitchell.

A man, aged 34, whose trouble had begun seven years before with cervical adenopathy and lesions on the legs, had had slight pain in the legs with a tendency to swell when he walked about. There had also been some itching. During the last few years three of the cervical glands had broken down. The Wassermann reaction in the beginning was negative, but the patient had been given one injection of arsphenamin, without benefit. Two years later, two more injections were given, which the patient asserted aggravated the trouble. Three recent Wassermann reactions had been negative. After remaining swollen for about four years, the cervical glands ruptured and discharged a whitish pus. The spleen was not enlarged. The veins in the right leg were slightly varicose.

The cutaneous lesions present consisted of numerous depressed scars on the arms and legs. There was a large mass on the right submaxillary region which was hard and fairly well defined. The lower two thirds of the legs had fairly well defined areas of brownish-red erythema interspersed with small papules and a few grouped lesions.

**DISCUSSION**

Dr. Quinn thought the lesions were tuberculids. The glandular involvement, with subsequent rupture, the scarring and the duration of the disorder made this diagnosis probable.

Dr. Oliver agreed with Dr. Quinn.

Dr. Foerster said the case reminded him of a patient presented before the Society by Fred Harris several years ago. Various diagnoses were suggested, and Dr. Harris eventually proved the condition to be the Sternberg type of tuberculosis. He believed this case belonged in the same group. The
fact that the disorder had been present for seven years assisted in ruling out
the diagnosis of a real Hodgkin's, as that was too long a period for that disease.

Dr. Pusey agreed with Dr. Foerster that there were two conditions to be
considered: first, the hypertrophy, which he believed was due to hypostatic
congestion, as the circulation was very bad; second, the various lesions, with
scarring, on the body, and the general adenopathy. A case of Hodgkin's dis-
ease does not usually last for seven years with the patient in the condition
this man was in; and a history of breaking down of the tumors was not
found in that disease. He thought it was a case of Sternberg's tuberculosis
and folliclis.

Dr. Mitchell said the patient had been sent in from the U. S. Public
Health Service hospital that day, and there had been no opportunity to study
the case. He said he would try to get some sections and report on the con-
dition later.

DERMATITIS HERPETIFORMIS. Presented by Dr. Pusey.

A man, aged 23, presented a disorder which had been present for four
years, characterized by recurrent, grouped, itching, papular, vesicular, and
urticarial lesions, on various parts of the body.

DISCUSSION

Dr. Beeson considered it a case of dermatitis herpetiformis.

Dr. Quinn agreed with this diagnosis.

Dr. Stillians thought it was a dermatitis herpetiformis and was interested
in the patient's statement that just before the eruption come on, he became
very nervous; and then the itching began.

A CASE FOR DIAGNOSIS. Presented by Dr. Mitchell.

A man, aged 26, presented a lesion which had been present on the right
scapula for two months. It began as a red, scaling patch which had been
indurated for about a month. There was slight pain at times, but apparently
no other sensation, and no other lesions were present. There had been no
cough at any time except a little following an attack of influenza, from which
he had recently recovered. There was no history of pulmonary trouble of any
kind, and the general health was good.

The lesion was situated on the right scapula and measured about 5 cm. in
diameter. It was a sharply defined, circular mass and deeply indurated. The
entire indurated area was covered by fine, dilated vessels which stopped sharply
at the margin of the induration. In the center of the lesion was a depression,
1 cm. in diameter. At the upper border was a hemispherical, rather yellowish,
hard nodule. No cutaneous lesions were present.

DISCUSSION

Dr. Beeson thought the case was very interesting, and that the lesion was
a new growth, possibly a sarcoma.

Dr. Pusey said there was some central scarring like that of syphilis, and
that he would want to exclude the diagnosis of a gumma that had undergone
involution. He suspected that it was a gumma, reserving the right to make
a diagnosis later. If syphilis was not found, a microscopic examination would
be necessary to settle the diagnosis.
DISCUSSION

Dr. Stillians suggested the diagnosis of sarcoid.

Dr. Mitchell stated that the man was seen just before the meeting and that there had been no time for much investigation. The patient was to return for laboratory work. He was impressed with the case at first as being a sarcoid because of the telangiectasia and the central necrosis, which he thought would fit in with the sarcoid of the Darier-Roussy type. There was no history of syphilis, but a Wassermann test would be made and the case would be reported later. Subsequently the Bordet-Wassermann reaction proved to be negative, and two injections of arsphenamin were given without effect on the lesion. Biopsy showed the lesion to be a sarcoma, and radiotherapy was instituted.

SYCOSIS VULGARIS. Presented by Dr. Stillians.

A Russian Jew presented an eruption which had been present on the face for thirteen years and which had begun near the ears. The whole right cheek was infiltrated, brownish-red, with follicular pustules here and there; above the ear these lesions joined a similar infiltration, involving about half the right occipital region. On the left cheek was a patch about 2½ by 1½ inches. Since August, 1919, the groins and suprapubic region had been involved in a similar eruption, and in January, 1920, an eruption appeared on both wrists.

DISCUSSION

Dr. Baer considered it a sycosis vulgaris and asked what treatment had been used.

Dr. Stillians said he had used vaccines and radiotherapy. There had been some improvement from the latter.

EXFOLIATIVE DERMATITIS. Presented by Dr. Stillians.

A farmer, aged 66, who had always been well, in the summer of 1919 had had his upper teeth extracted and while he was without teeth had become constipated. The dermatitis which first appeared in September, 1919, was first noticed on the hands, and then over the entire body. Marked itching was complained of. The patient had lost considerable hair, and the scaling at times had been abundant. Almost the entire skin was thickened and red, with the scales especially abundant on the scalp, palms and soles. He had had two periods of arsenical treatment, with increase of symptoms both times. He improved somewhat on quinin, but a dosage of 18 grains daily caused deafness. Alkalies had some beneficial effect. He had had a persistent eosinophilia of from 25 to 30 per cent.

DISCUSSION

Dr. Pusey thought the case was of the Wilson type, which was an acute affair. He thought there was a group that had to do with the lymphatic glandular apparatus and another that was due to intoxication.

Dr. Mitchell said the recent work of Douglas Symmers was interesting in this connection; he grouped the exfoliative dermatoses and pseudoleukemias all in one group as being due to changes in the blood-forming organs. Symmers' idea was that they were intoxications acting on the blood-forming organs, with the cutaneous manifestations as a symptom. The idiopathic exfoliative dermatitis known as pityriasis rubra of Hebra was readily differentiated from the secondary type or the Wilson-Brocq type, because in the
former the skin was lacking in edema. was uniformly dark red, the scales were very fine and there was eventually atrophy and almost invariably death, whereas in the Wilson-Brocq type there was marked edema, the scales were, as a rule, quite large, and there was a lack of uniformity in the lesions. Recovery frequently took place.

Dr. Stillians said that no treatment except quinin has accomplished anything, and that did not do enough because the patient could not take large doses. He had studied the case in the hospital, but had found nothing definite. He asked for suggestions as to treatment.

Dr. Mitchell thought it would be worth while to try the detoxicated thyroid as Engman has used it in such cases.

ARS PHEN AMIN ERUPTION. Presented by Dr. Zeisler.

A man, aged 26, had developed an eruption on the arms and neck about one week before presentation. He had received four injections of 0.9 neo-arsphenamin and the eruption had appeared after the last injection. He had been given four mercurial injections four months ago, but none recently. The eruption consisted of a follicular papular eruption, mostly on the trunk, upper extremities and face.

DISCUSSION

Dr. Foerster thought it was a case of arsphenamin intoxication with an exfoliative dermatitis, and that it would be interesting to know which brand and the amount of arsphenamin that had been used.

Dr. Pusey agreed with Dr. Foerster.

Dr. Stillians was interested in such cases for they had had several patients at the County Hospital that had had eruptions before the final injection was given. He believed that the skin should be watched carefully during arsphenamin therapy. They had one man who did not have syphilis, but who had dermatitis venenata from iodin. Someone made a diagnosis of syphilis, and he was given an injection of arsphenamin and developed an exfoliative dermatitis from the first dose.

Dr. Zeisler stated that the patient had a chancre when he was first seen at the clinic and had no eruption. He was given four injections of 0.9 neo-arsphenamin of the Metz variety and the eruption appeared following the last injection one week before. He thought it was an unusual type of arsphenamin eruption.

SY PHIL IT IC KER AT OD ERMA. Presented by Dr. Zeisler.

A man, aged 50, had had an eruption on the left foot of six months' duration, which caused some difficulty in walking. There were no lesions on any other part of the body. The eruption consisted of sharply margined, hyperkeratotic lesions on the sole of one foot, which spread over to the dorsum, with a tendency to ulceration at the margin. He had had a primary lesion twenty-five years ago and no symptoms since then. The Wassermann reaction was ++ + + .

DISCUSSION

Dr. Quinn thought it was a case of late syphilis.

Dr. Foerster thought the superficial scar formation and the infiltration of the border all pointed toward syphilis.
Dr. Stillians agreed with this diagnosis and was interested in the very peculiar dark brown macule farther up on the leg which was very similar to that in a case shown by him at the December meeting as Schamberg's disease.

Dr. Pusey and Dr. Mitchell thought it was a syphilid.

MACULAR ATROPHY FOLLOWING SYPHILIS. Presented by Dr. Zeisler.

A man, aged 30 years, with a history of chancre and eruption three years ago, and who had had several courses of treatment, a month ago presented himself with mucous patches on the tongue, adenopathy and ++++ Wassermann reaction. Scattered over the body were white, atrophic, scarlike spots which were apparently elevated above the surface of the skin with a pseudo-hypertrophy; but on stretching the skin there was seen to be an atrophy. The man stated that these lesions had persisted since the generalized eruption three years previously.

DISCUSSION

Dr. Stillians was interested because of the fact that the lesions were papular when not stretched, probably because of the fact that the skin pressed the areas together. He could not make out that they were the direct result of a syphilitic infection, and thought it was a macular atrophy independent of the syphilis.

Dr. Lieberthal was impressed with the case as being the result of syphilis, and was reminded of one observed by him about ten years ago in which syphilitic papules gradually subsided, leaving atrophic spots in which the skin became heaped up, as in this case.

Dr. Pusey thought that first the man had syphilis; he had had a large papular syphilid and with the disappearance of the subcutaneous, small gummas, there was destruction of a large part of the substance of the corium, and as a result of that, thin patches of the skin ballooned as they do in multiple tumor-like newgrowths. The bulging occurred because the tension of the skin was not sufficient to hold the tissues down to the normal contour. One very frequently saw syphilids without any ulceration, and these had doubtless been present to a large extent in this case and the tumor-like newgrowths were the result.

Dr. Mitchell was inclined to agree with Dr. Lieberthal, and stated that he saw a similar case in a negro at Camp Funston.

Dr. Eisenstaedt was inclined to believe that Dr. Pusey's suggestion was correct. The disorder was rather peculiar in distribution and there was great variation in the size of the lesions. Many of them had evidently been round, subcutaneous gummas involving also the corium, and others seemed to be rather linear. This could occur if the patient had rapidly taken on weight following the appearance of the syphilitic lesions. He was not opposed to the view expressed by Dr. Lieberthal.

Dr. Beeson was reminded of a picture he saw in Darier's Précis de Dermatologic under the title of 'Vergetures Rondes.' They were atrophic lesions in the skin which might follow any one of a number of eruptions, but especially syphilis.

Dr. Zeisler agreed with Dr. Lieberthal and Dr. Pusey in considering the case one of atrophy following a secondary syphilis.
Book Reviews

A TEXTBOOK OF DERMATOLOGY. By J. Darier, Physician to the Hôpital Saint Louis; Member of the Academy of Medicine, Paris, France; Honorary Member of the American Dermatological Association. Authorized translation from the second French edition. Edited with notes by S. Pollitzer, New York, Ex-President of the American Dermatological Association; corresponding member of the French Society of Dermatology and Syphilology. Pp. 769, illustrated with 204 engravings and four colored plates. Lea & Febiger, Philadelphia and New York, 1920.

This excellent book, which heretofore in the second edition was available only to those with a knowledge of French, and in the Jadassohn edition of 1913 only to those with an acquaintance with German, is welcomed by English reading students of dermatology. That it is edited by Dr. Pollitzer, whose experience with American dermatology parallels that of the French author in time and extent, adds to its value.

The arrangement of the text of this edition follows that of the original. There are two divisions and an appendix. The first section is entitled, "Morphology of the Dermatoses," and in it are described the eruptive lesions, and noneruptive cutaneous changes together with the principal syndromes. The term "eruptive dermatoses" is applied to skin diseases made up of efflorescences, such as spots, papules and vesicles. The "noneruptive dermatoses" consist of those showing change of color, hypertrophy, atrophy or lesions of the nails, hair, etc. The second section is headed, "Nosology of the Dermatoses." Here, the pathologic entities are reviewed and classified according to the nature of their cause. Tumors of the skin are classed together although their etiology is unknown.

Darier adheres to the term eczema, applying it to the eruptions not characterized by a single eruptive element, but by a series of elementary lesions which succeed one another, combine or coexist in neighboring localities. These lesions are the result of an inflammatory process, affecting the epidermis and cutis; an epidermodermatitis, comprising several stages which are equally important. He gives these characteristic features: arrangement in spots, patches, or surfaces with irregular outlines (insular, geographic or archipelagous); development in crops or relays, with a tendency to peripheral extension, and often to a chronic state with fresh exacerbations and of more or less pruritic character. Darier conceives of eczema as a relatively common mode of reaction of the skin toward a series of mechanical, physical, parasitical and microbial irritants. He proposes the term eczematoses for the chronic pathologic conditions described by other authors as constitutional eczema, eczema-disease or true eczema. When a dermo-epidermatitis of eczematous type becomes superadded to the lesions of a preexisting dermatosis, Darier speaks of secondary eczematization, or of an eczematized dermatosis. The dry eczemas, eczema seborrhœicum, or seborrhœids are called eczematides, and a special chapter is devoted to them.
Darier admits the existence of autotoxic eruptions, and although he feels that it is unpractical to draw a picture of the cutaneous manifestations of gout, uremia, or urinary insufficiency, hepatic insufficiency, cholelithiasis, the gastro-intestinal dyspepsias, etc., he asserts that eczematosis of adult or aged people may not infrequently lead to the discovery of a still latent internal cancer, an existing pyelonephritis, or nephritis, etc.

The eruptions of syphilis are discussed in their morphologic divisions of the first section. A chapter under the nosology treats of the cause, transmission, treatment, etc., but the symptoms other than those of the skin and mucous membranes receive slight mention. The editor has added his notes and his personal views on the treatment of syphilis according to the intensive administration of arsphenamin. Mycosis fungoides is discussed in a chapter with cutaneous leukemias and allied diseases.

The histologic descriptions are comprehensive, and not overlong. The cuts illustrative of the pathology are suggestive only. The photographs are those that appeared in the original, and it should be a source of gratification that some appear from the publications of American dermatologists.

The therapeutic section is based on French usage. Dr. Pollitzer has made frequent notes in this part.

The index is short, unfortunately, for a textbook. There are many omissions. Arsphenamin, arsenic therapy and chemotherapy are not discussed.

The book may be said to be the product of three schools of dermatology: the French by Darier, the German by Jadassohn of Bern (a considerable number of whose notes to a German edition of 1913 have been incorporated in the second French edition), and the American by Pollitzer of New York.


This is not an elementary work on skin diseases, but is rather a series of brief comments on certain of the commoner dermatoses. The book is profusely illustrated with good photographs. The text is surprisingly brief and is really inadequate, the briefest descriptions of the clinical pictures with equally brief comments on the treatment of the diseases considered, being given. The book contains nothing on etiology, pathology or bacteriology. Impetigo, for example, is described as an infectious disease; the text does not explain what the infectious agent is. The diseases are taken up in alphabetical order: carcinoma follows alopecia areata; keloid follows impetigo; urticaria follows tuberculosis, and so on.

It is difficult to justify the existence of books that contain nothing on etiology, bacteriology or pathology and so give no reasons for the phenomena of the diseases or explanations of the treatment.
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INDEX TO VOLUME 1

The star (*) preceding the page number indicates an original article in The Archives. Book Reviews, Obituaries and Society Transactions are indexed under these headings in their alphabetical order under the letters B, O and S respectively.

Abramowitz, W. W.: Annular lichen planus................................. 329
  Case for diagnosis.......................................................... 110
  Delaying early diagnosis of syphilis (chancre); dangers and how to
    avoid them............................................................ 212
  Ichthyosis vulgaris and von Recklinghausen’s disease.................. 345
  Nevus lateralis, hyperkeratotic type.................................. 344
  Nevus verrucosus ....................................................... 111
  Psoriasis and dermatitis exfoliativa ................................ 713
Abscesses, multiple; H. Fox............................................... 716
Acanthosis nigricans or melanotic cancerous papillomata; Dubreuilh.. 66
Acne; E. P. Zeisler....................................................... 483
  or papulonecrotic tuberculid; Wise................................ 741
Acnitis; Strickler........................................................ 102
Acro-asphyxia; F. Wise................................................ 340
Acrodermatitis chronica atrophicans; F. Wise.......................... 115
  chronica atrophicans with report of case; M. Scholtz............. 565
Acromegaly; J. M. Armstrong............................................ 360
  unilateral; J. F. Schamberg........................................ 104
Actinomycosis, cancer of face resembling; J. Nicolas, M. Favre and Massia. 452
Acton, H. W.: Study of distribution of Bagdad boils on body made with
  view to discover transmitting agent ................................ 65
Adamson, H. G.; Multiple xanthoma in boy............................. 695
  Lichen planus in children.......................................... 582
  Present position of curative vaccination........................... 211
  Schamberg’s “peculiar progressive pigmented disease of skin”.... 326
Addison’s disease; Strickler.......................................... 101
Adenoma sebaceum; I. Rosen and Wolf, 329; W. B. Trimble, 340; J. J.
  Rothwell ................................................................. 700
Adson, A. W.; Surgical treatment of gummatous osteitis of skull..... 584
Aikins W. H. B.; Status of radium-therapy in dermatology .......... 581
Alling; Case for diagnosis............................................. 110
Alopecia, epidemic of; W. J. Rutherford............................... 580
  postinfluenzal; H. H. Hazen...................................... 68
  totalis; M. B. Parounagian.......................................... 220
  totalis (treated with carbolic acid); B. F. Ochs.................. 459
Angioma serpiginosum; A. M. H. Gray, 64; H. Fox.................... 461
Anthrax, cutaneous; E. F. Neve...................................... 449
  human; J. C. Regan and C. Regan.................................. 72
  shaving-brush anthrax of face; G. Pernet.......................... 695
Aortic insufficiency and Wassermann test; J. E. Benjamin and J. S. Havre. 325
  insufficiency, syphilitic; J. C. Meakins.......................... 698
### INDEX TO VOLUME 1

<table>
<thead>
<tr>
<th>A</th>
<th>Apothesin, skin reactions to apothesin and quinin in susceptible persons;</th>
<th>651</th>
</tr>
</thead>
<tbody>
<tr>
<td>W. H. Mook...............</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Armstrong, J. M.; Acromegaly</td>
<td>360</td>
<td></td>
</tr>
<tr>
<td>Leprosy</td>
<td>360</td>
<td></td>
</tr>
<tr>
<td>Pigmented mole</td>
<td>360</td>
<td></td>
</tr>
<tr>
<td>Arsenic, erythema due to arsenic; M. G. Milian</td>
<td>578</td>
<td></td>
</tr>
<tr>
<td>intramuscular arsenical treatment; L. Gerbay</td>
<td>452</td>
<td></td>
</tr>
<tr>
<td>pigment due to arsenic; Parounagian</td>
<td>739</td>
<td></td>
</tr>
<tr>
<td>preliminary report on syphilitic and arsenical jaundice; G. O. Scott</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td>Arsenobenzene, Arsenobenzol: See Arsphenamin.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arsenobenzene, avoidance of untoward results following arsenobenzol administration; C. Stern</td>
<td>206</td>
<td></td>
</tr>
<tr>
<td>comparison of two methods of administering arseno-benzol compounds in syphilis; H. E. Gibson</td>
<td>453</td>
<td></td>
</tr>
<tr>
<td>early nervous syphilis after arsenobenzene; J. E. R. McDonagh</td>
<td>687</td>
<td></td>
</tr>
<tr>
<td>eruption; E. P. Zeisler</td>
<td>746</td>
<td></td>
</tr>
<tr>
<td>exfoliative dermatitis due to arsphenamin; report of fatal case; J. R. Latham</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td>four fatalities following salvarsan; W. B. Blanton</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>functions of cerebrospinal fluid, with special considerations of spinal drainage and of intraspinal injections of arsphenamized serum; F. X. Dercum</td>
<td>579</td>
<td></td>
</tr>
<tr>
<td>hemolytic activity of solutions of arsphenamin and neo-arsphenamin; J. A. Kolmer and E. M. Yeagle</td>
<td>690</td>
<td></td>
</tr>
<tr>
<td>laboratory and clinical studies bearing on causes of reactions following intravenous injections of arsphenamin and neo-arsphenamin, second communication; J. F. Schamberg, J. A. Kolmer, G. W. Raiziss and C. Weiss</td>
<td>*235</td>
<td></td>
</tr>
<tr>
<td>persistent salvarsan exanthema; D. Fuchs</td>
<td>698</td>
<td></td>
</tr>
<tr>
<td>serious reactions from salvarsan and diarsenol brands of arsphenamin; unusual blood pictures, with report of fatal case; J. E. Moore and F. E. B. Foley</td>
<td>*25</td>
<td></td>
</tr>
<tr>
<td>therapeutic management of tuberculids with specific reference to efficiency of arsphenamin; J. H. Stokes</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>treatment of syphilis with silver-salvarsan; Rile and Fruhwald</td>
<td>583</td>
<td></td>
</tr>
<tr>
<td>treatment of tuberculids; J. H. Stokes</td>
<td>573</td>
<td></td>
</tr>
<tr>
<td>Arthritis, case of gonorrhea with arthritis and keratoses; N. P. Lang</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>Ashbrooke, C.: One aspect of syphilis as community problem</td>
<td>74</td>
<td></td>
</tr>
<tr>
<td>Atrophoderma, pigmentation with atrophoderma on right thigh; G. M. MacKee</td>
<td>348</td>
<td></td>
</tr>
<tr>
<td>Atrophy, acrodermatitis chronica atrophicans with report of case; M. Scholtz</td>
<td>*565</td>
<td></td>
</tr>
<tr>
<td>macular atrophy of skin; Stillians</td>
<td>484</td>
<td></td>
</tr>
<tr>
<td>of skin; A. W. Stillians</td>
<td>593</td>
<td></td>
</tr>
<tr>
<td>Atwater, R. M.: Scleroderma and sclerodactyia; report of case with roentgen rays and review of literature</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>Axillae, chronic papular itching eruption of axillae and pubes (Fordyce); S. M. Withers</td>
<td>*8</td>
<td></td>
</tr>
<tr>
<td>Babonneix: Allergy in syphilis of nervous system</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>Bachman, R. W.: Spore identifications in scrapings</td>
<td>*50</td>
<td></td>
</tr>
<tr>
<td>Bacot, A.: Experiments on destruction of lice and nits</td>
<td>450</td>
<td></td>
</tr>
</tbody>
</table>
INDEX TO VOLUME I

Baeslack, F. W.: Diagnosis of primary syphilis by culture.......................... 582
Bagdad boils, study of distribution of, on body made with view to discover transmitting agent; H. W. Acton.......................... 65
Bagg, H. J.: Pathological changes accompanying injections of an active deposit of radium emanation.................................................. 580
Barber, H.; Cerebrospinal fluid in syphilis.............................................. 212
Lupus erythematosus associated with streptococcal infection of tonsils....... 327
Wassermann test; criticism of its reliability.......................................... 78
Barendt, F. H.: Scleroderma................................................................. 697
Barker, L. F.: Chronic pemphigus vegetans of several years’ duration........ 76
Baudouin, E.: Motor troubles in zona.................................................... 323
Bechet, P. E.; Case for diagnosis.......................................................... 356
Extensive erythematous showing result of repeated applications of 95 per cent. phenol solution.................................................. 351
Hydrargism from application of weak ammoniated mercury ointment in treatment of psoriasis..................................................*636
Mycosis fungoides.................................................................................. 711
Pityriasis rubra pilaris...........................................................................111; 705
Tuberculosis verrucosa cutis....................................................................330; 705
Bedell, A. J.: Multiple vaccination of eyelids........................................... 584
Benjamin, J. E.: Relation of aortic insufficiency to Wassermann test......... 325
Bercovitz, N.: Cancer in Hainan, China................................................. 71
Bladder, syphilis of; L. Thompson.......................................................... 694
Blanton, W. B.: Four fatalities following salvarsan................................. 212
Blastomycosis, clearing house for cutaneous fungi and blastomycoses; F. D. Weidman.............................................................................. 683
Blastomycosis; A. W. Stillians, 94; D. Lieberthal, 477; B. F. Ochs, 734;
A. W. Stillians and F. E. Senear................................................................ 589
carcinoma suggesting blastomycosis; Mitchell and Finnerud..................... 389
extensive, of arm; J. Butler, Jr............................................................... 359
Blood, chemical composition of, in cancer; R. C. Theis and W. S. Stone... 324
Boggs, R. W.: Treatment of epithelioma by radium................................ 73
Boil, Bagdad, study of distribution of Bagdad boils on body made with view to discover transmitting agent; H. W. Acton............. 65
Delhi boil; H. MacCormac................................................................. 65
Bonne, E.: “Bosch-yaws,” dermal leishmaniasis of Dutch Guiana............. 320
Bonorino Udaondo, C.: Atrophic cirrhosis of liver with inherited syphilis.. 568
Book Reviews:
Common Diseases of Skin with Notes on Diagnosis and Treatment; G.
Gordon Campbell............................................................... 749
Diseases of Skin; R. L. Sutton............................................................ 117
Le Traitement de la Syphilis par les Composes Arsenicaux; Lacapère... 230
Textbook of Dermatology; J. Darier..................................................... 748
Bory, L.: Parasitic theory of psoriasis.................................................... 587
Bosh-yaws, the dermal leishmaniasis of Dutch Guiana; E. Bonne............ 320
Bowen, J. T.: Precancerous dermatoses; further course of two cases pre-
viously reported ...............................................................................23
Branchial cyst; F. L. McEwen.............................................................. 598
Bridgeman, F. W.; Heart block caused by gumma of septum................. 68
Brocq, L.: New notes on eczemas.......................................................... 66
Broders, A. C.: Squamous-cell epithelioma of lip................................ 685
INDEX TO VOLUME 1

Bromid, circular ulcer of leg caused by administration of bromids; E. Ward ........................................ 214
eruption; F. Wise ........................................ 709
Brown, W. H.: Vitiligo and its relation to syphilis, acquired or hereditary 213
Browning, C. H.: Complement fixation test in syphilis ....................... 206
Wassermann tests; occurrence of variations in results of successive tests 79
Bubo, filiform drainage in treatment of chancreoidal bubos; A. Floquet 325
Bullard, H. H.: Method of clearing frozen section .......................... 68
Bunch, J. L.: Keratosis follicularis .................................. 65
Linear morphea ................................................. 695
Burn, extensive keloidal scarring after burn; F. Wise and J. A. Fordyce 730
Burnier: Gonococcal chancre ................................... 67
Burrows, M. T.: Significance of lunula of nail ................................ 68
Butler, J., Jr.: Extensive blastomycosis of arm .............................. 359

Cailliau: Wrinkled senile skin in child of two ................................ 455
Calcareous deposits in skin; Fernet and Nahan ............................... 586
Camphor oil tumors: W. H. Mook and W. G. Wander ........................ 304
Cancer, chemical composition of blood in cancer; R. C. Theis and W. S. Stone .......................................................... 324
early diagnosis of cancer of tongue; M. Ferrand .............................. 207
effect of X-ray irradiation on living carcinoma and sarcoma cells in tissue cultures in vitro; N. Kimura ...................... 71
in Hainan, China. preliminary statistical study of 131 operations with special reference to age incidence, anatomical distribution and etiology; N. Bercovitz .......................................................... 71
in syphilitic patient; B. Lapowski ........................................ 330
mortality statistics of cancer among wage earners; with observations on comparative incidence of disease in general population; L. Dublin 72
of face resembling actinomycosis: J. Nicolas, M. Fevre and Massia .... 452
old age in relation to cell-overgrowth and cancer; E. W. Goodpasture and G. B. Wislocki ......................................................... 67
precancerous dermatoses; further course of two cases previously reported; J. T. Bowen ................................................................. 23
precancerous lesions of skin of vulva; leukoplakic vulvitis, kraurosis, pruritus; F. J. Taussig ......................................................... 621
solar keratoses and cutaneous cancer; J. X. McCoy ............................ 175
studies on X-ray effects; direct action of X-rays on transplantable cancers of mice; E. Hill, J. J. Morton and W. D. Witherbee .................. 76
suggesting blastomycosis; Mitchell and Finnerud ................................ 589
Carcinoma: See Cancer
Carrera, J. L.: Pathologic study of lungs in 152 necropsy cases of syphilis 451
Carretti, H. L.: Tertiary syphilis of liver ................................... 697
Carter, D. W., Jr.: Chronic pemphigus vegetans of several years' duration 76
Carulla, J. E.: Atrophic cirrhosis of liver with inherited syphilis ........ 586
Castellani, A.: Cultural characters of tricophyton balcanicum cast., the cause of pseudopityriasis capitis ..................................... 321
Cerebrospinal fluid, functions of, with special considerations of spinal drainage and of intraspinal injections of arsphenaminized serum; F. X. Deicum ......................................................... 579
in syphilis; C. F. White and H. Barber ...................................... 212
nonconcomitance of spinal fluid tests; H. C. Solomon ......................... 324
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chalmers, A. J.</td>
<td>Lichen scrofulosorum in Sudan</td>
<td>320</td>
</tr>
<tr>
<td></td>
<td>Sudanese examples of two common hyperkeratoses</td>
<td>323</td>
</tr>
<tr>
<td>Tricophyton currii</td>
<td></td>
<td>320</td>
</tr>
<tr>
<td>Chambers, H.</td>
<td>Experimental studies with small doses of X-rays</td>
<td>78</td>
</tr>
<tr>
<td>Chancre</td>
<td>Destroyed before its appearance; Mignot</td>
<td>453</td>
</tr>
<tr>
<td>Extragenital, of mucous</td>
<td>Membrane of cheek; G. M. Olson</td>
<td>359</td>
</tr>
<tr>
<td>Indolent sores on fingers</td>
<td>R. W. MacKenna</td>
<td>450</td>
</tr>
<tr>
<td>Of chin; E. W. Potthoff</td>
<td></td>
<td>480</td>
</tr>
<tr>
<td>On right tonsil; M. P.</td>
<td>Parounagian</td>
<td>460</td>
</tr>
<tr>
<td>Statistical study of</td>
<td>Extragenital chancre; H. W. Porter</td>
<td>*15</td>
</tr>
<tr>
<td>Chancre, treatment of, with</td>
<td>High frequency vacuum electrode and copper sulphate solution; L. H.</td>
<td>*434</td>
</tr>
<tr>
<td>Cheilitis glandularis</td>
<td>M. B. Hartzell, 104; F. Wise</td>
<td>468</td>
</tr>
<tr>
<td>Cockayne, E. A.</td>
<td>Acute striae atrophicae following influenzal pneumonia</td>
<td>212</td>
</tr>
<tr>
<td>Cole, H. N.</td>
<td>Report of two cases of idiopathic hemorrhagic sarcoma (Kaposi)</td>
<td>283</td>
</tr>
<tr>
<td>Colloid milium</td>
<td>W. B. Trimble</td>
<td>465</td>
</tr>
<tr>
<td>Consal, A.</td>
<td>Treatment of leprosy</td>
<td>319</td>
</tr>
<tr>
<td>Courtois-Suffit</td>
<td>Dermatologic malingering</td>
<td>66</td>
</tr>
<tr>
<td>Craik</td>
<td>Simple treatment of ringworm of nails</td>
<td>696</td>
</tr>
<tr>
<td>Creeping eruption</td>
<td>See Larva migrans</td>
<td></td>
</tr>
<tr>
<td>Cretinism</td>
<td>Circumscribed scleroderma of face associated with cretinism;</td>
<td>99</td>
</tr>
<tr>
<td>Schamberg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crump, E. S.</td>
<td>Report of two cases of idiopathic hemorrhagic sarcoma (Kaposi)</td>
<td>283</td>
</tr>
<tr>
<td>Culver, G. D.</td>
<td>Case illustrating value of radium in verrucae planae</td>
<td>697</td>
</tr>
<tr>
<td>Clinical study of lichen</td>
<td>Planus</td>
<td>43</td>
</tr>
<tr>
<td>Dactylitis syphilitica</td>
<td>B. Lapowski</td>
<td>340</td>
</tr>
<tr>
<td>Darier, J.</td>
<td>Dyshidrosis: its parasitic nature</td>
<td>447</td>
</tr>
<tr>
<td>Darier's disease</td>
<td>W. J. Chargin</td>
<td>710</td>
</tr>
<tr>
<td>Day, A. B.</td>
<td>Incidence of syphilis as manifested by routine Wassermann reaction</td>
<td>210</td>
</tr>
<tr>
<td>Delhi boil; H. MacCormac</td>
<td></td>
<td>65</td>
</tr>
<tr>
<td>Denéchau, D.</td>
<td>Epidemic encephalitis</td>
<td>689</td>
</tr>
<tr>
<td>Denny, O. E.</td>
<td>Photographic study of leprosy</td>
<td>66</td>
</tr>
<tr>
<td>Dercum, F. X.</td>
<td>Functions of cerebrospinal fluid with special considerations of</td>
<td>579</td>
</tr>
<tr>
<td></td>
<td>Spinal drainage and of intraspinal injections of arsphenaminized</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Serum</td>
<td></td>
</tr>
</tbody>
</table>
INDEX TO VOLUME 1

Dermatitis exfoliativa; Stillians ........................................... 745
exfoliativa and psoriasis; E. W. Abramowitz .......................... 713
exfoliativa due to arsphenamin; report of fatal case; J. R. Latham . 69
exfoliativa, of fingers; Stillians .......................................... 90
exfoliativa, vaccine therapy; W. S. Gottheil ............................ 458
for diagnosis (bullous dermatitis herpetiformis or erythema multiforme):
  W. S. Gottheil ............................................................ 217
herpetiformis; Pusey ....................................................... 744
herpetiformis, universal dermatitis following; Hartzell .......... 100
medicamentosa; I. Rosen .................................................. 355
premycotic dermatitis; W. A. Stillians ................................ 611
psoriasis, seborrheic dermatitis and pityriasis rosea; W. A. Pusey and
  F. E. Seneear ............................................................. 589
repens; O. S. Ormsby and Mitchell .................................... 598
universal exfoliative dermatitis from sodium cacodylate; W. A. Pusey .. 57
universal, following dermatitis herpetiformis; Hartzell ............. 100
Dermatologic misnomers; M. Scholtz, *182; G. H. Fox .............. 443
Dermatoses, precancerous dermatoses; further course of two cases previously reported; J. T. Bowen ......................... *23
Dermatotlasia (so called pickers’ disease); F. Wise ................... 222
Devergie’s disease; E. P. Zeisler ....................................... 93
Devota, F. J.: Intravenous injection of potassium iodid in tabes dorsalis... 76
Diarsenol, effect of intravenous diarsenol; W. C. Rappleye ........ 69
Diathermy; N. Patterson .................................................. 448
Disinfectors, experiments with steam disinfectors in destroying lice in clothing; R. H. Hutchinson ......................... 324
Driscoll, T. L.: Erosive vulvitis ........................................ 170
Drug eruption; See under Apothesin; Arsphenamin; Bromid; Intramine; Quinin; Sodium cacodylate
Dublin, L. I.: Mortality statistics of cancer among wage earners: with observations on comparative incidence of disease in general population ........................................... 72
Dubreuilh: Acanthosis nigricans or melanotic cancerous papillomata .... 66
Dudley, S. F.: Primary syphilis ........................................... 79
Dujardin: Vitiligo and its relation to syphilis, acquired or hereditary ... 213
Dyke, S. C.: Keratoderma blennorrhagica ................................ 447
Dyshidrosis: Its parasitic nature; J. Darier ............................. 447
Dystrophies and hereditary syphilis; V. Huitinel and H. Stevenin .... 575

Eberson, F.: “Spirochetes” derived from red blood corpuscles .......... 638
Ectodermal defect, congenital, with report of case; W. H. Goeckermann .. *396
Ec zema; W. A. Pusey and F. E. Seneear .................................. 609
etiology of eczema; H. H. Hazen ................................ ....*642
folliculitis decalvans with seborrhieic eczema; F. Wise .......... 468
from dermatological point of view; G. M. MacKee .................. 70
new notes on eczemas; L. Brocq ........................................ 66
of nipples; W. B. Trimble ................................................ 464
persistent; D. Lieberthal ................................................. 483
Eczematoid infectious dermatitis; E. P. Zeisler ....................... 476
Edema, chronic, of eyelids; H. Fox .................................... 718
Elephantiasis, filarial; L. T. Wright .................................... 336
Ellis, H. A.: Picric-brass preparations in lupus and other forms of tubercu-

osis .......................................................... 77
INDEX TO VOLUME 1

Encephalitis, epidemic; D. Denéchau.................................................. 689
Endomyces, cultural studies on an infection of skin by endomyces albicans;
F. W. Tanner and B. Feuer.............................................................. *365
Engman, M. F.: Burning tongue......................................................... *137
Monilia candida infection of mouth; Moeller’s disease, pneumococcus
treatment of tongue, etc................................................................. *119
Peculiar fungus infection of skin (soorpilze)..................................... *70
Epidermolyis bullosa; L. C. Pardee.................................................. 92
Epidermophyton infection; E. P. Zeisler............................................ 599
infection, “epidermophytosis”; M. B. Hutchins.......................... 63
Epithelioma (?) ; F. Wise................................................................. 739
benign cystic epithelioma (Brooke-Fordyce type); M. B. Hartzell.... 103
multiple benign cystic epithelioma; G. M. MacKee......................... 346
multiple benign cystic epithelioma and syringoma; F. Wise........... 357
of lip; J. J. Rothwell, 332; M. Parounagian................................. 335
of nose; J. Kingsbury................................................................. 725
of penis; healed by curettage and acid nitrate of mercury; W. B. Trimble. 733
of tonsils, with syphilitic condition; M. B. Parounagian.............. 438
of upper lip; superficial flat type; W. B. Trimble......................... 466
squamous-cell, of lip; A. C. Broders............................................. 685
treatment of, by radium; R. H. Boggs......................................... 73
unusually large primary epithelioma of ocular conjunctiva; C. A. Vessey. 697
Erythema, acute, resembling measles; F. H. Kelly........................ 76
arsenical; M. G. Milian................................................................. 578
chronic, of face (for diagnosis); W. B. Trimble........................... 699
ichthyotic condition with erythema (for diagnosis); H. H. Whitehouse. 724
induratum of legs with tuberculids of fingers; D. Lieberthal......... 590
migrants (geographical tongue); B. F. Ochs and Feldman............ 219
nodosum, cerebrospinal fever supervening; J. C. Meakins............. 586
nodosum syphiliticum; A. W. Stillians and F. E. Senear.............. 607
perstans; A. J. Gilmour, 349, 351; J. M. Winfield 727; Wise........ 739
solare perstans? lupus erythematosus disseminatus; L. Chargin..... 347
Esophylaxis, protective function of skin (esophylaxis); E. Hoffmann... 321
Estes W. L., Jr.: Study of causes of delayed union and nonunion in frac-
tures of long bones................................................................. 326
Ewing, J.: Some late and distant effects of radium..................... 70
Excoriations, neurotic; G. M. MacKee........................................... 229; *256
neurotic, with leukoderma-like lesions; M. Parounagian............. 742
neurotic, with report of cases; W. A. Pusey and F. E. Senear....... *270
Eyelids, chronic edema of; H. Fox................................................. 718
multiple vaccination of eyelids; A. J. Bedell............................... 584
Face, chronic congestion of face; for diagnosis; W. B. Trimble...... 466
hemiatrophy of face and scalp; O. L. Levin................................ 709
Favre, M.: Cancer of face resembling actinomycosis..................... 452
Favus, contagiousness of, in man; B. Sabouraud.......................... 448
Feer, E.: Varicella and herpes zoster............................................ 693
Feldman: Geographical tongue (erythema migrans)......................... 219
Fernet, P.: Case of calcareous deposits in skin.......................... 586
Semeiologic value of buccal leukoplakia........................................ 206
Ferrand, M.: Early diagnosis of cancer of tongue........................ 207
Feuer, B.: Cultural studies on infection of skin by endomyces albicans... *365
Fingers, indolent sores on fingers; R. W. MacKenna..................... 450
<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finnerud</td>
<td>Carcinoma suggesting blastomycosis</td>
<td>589</td>
</tr>
<tr>
<td>Fischer, A.</td>
<td>Multiple tumors of mouse mamma; are they independent or metastatic</td>
<td>72</td>
</tr>
<tr>
<td>Fleischner, E. C.</td>
<td>Résumé of some experimental studies on cutaneous hypersensitivity</td>
<td>208</td>
</tr>
<tr>
<td>Flick, A. M.</td>
<td>Human versus guinea-pig complement in serum diagnosis of syphilis</td>
<td>204</td>
</tr>
<tr>
<td></td>
<td>with special reference to methods employing human complement</td>
<td></td>
</tr>
<tr>
<td>Floquet, A.</td>
<td>Filiform drainage in treatment of chancroidal bubos</td>
<td>325</td>
</tr>
<tr>
<td>Foerster, O. H.</td>
<td>Dermatology and associated disorders of mucous membranes</td>
<td>69</td>
</tr>
<tr>
<td>Foley, F. E. B.</td>
<td>Serious reactions from salvarsan and diarsenol brands of arsphenamin</td>
<td>25</td>
</tr>
<tr>
<td>Folliculitis decalvans</td>
<td>and lichen spinulosus; O. S. Ormsby</td>
<td>471</td>
</tr>
<tr>
<td>Fordyce, J. A.</td>
<td>Extensive keloidal scarring after burn</td>
<td>730</td>
</tr>
<tr>
<td>Fox, G. H.</td>
<td>Dermatologic misnomers</td>
<td>443</td>
</tr>
<tr>
<td>Hypertrophic scars</td>
<td></td>
<td>224</td>
</tr>
<tr>
<td>New York Dermatological Society, semicentennial celebration</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Tinea cruris</td>
<td></td>
<td>224</td>
</tr>
<tr>
<td>Tinea unguium</td>
<td></td>
<td>722</td>
</tr>
<tr>
<td>Fox, H.</td>
<td>Angioma serpiginosum</td>
<td>461</td>
</tr>
<tr>
<td>Chronic edema of eyelids</td>
<td></td>
<td>718</td>
</tr>
<tr>
<td>For diagnosis: lupus erythematosus vs. lupus vulgaris</td>
<td>714</td>
<td></td>
</tr>
<tr>
<td>Hodgkin's disease associated with cutaneous tumors</td>
<td>731</td>
<td></td>
</tr>
<tr>
<td>Lichen scrofulosorum</td>
<td></td>
<td>354</td>
</tr>
<tr>
<td>Lupus vulgaris disseminatus</td>
<td>709</td>
<td></td>
</tr>
<tr>
<td>Lupus vulgaris (disseminated follicular type)</td>
<td>226</td>
<td></td>
</tr>
<tr>
<td>Lupus vulgaris (follicular disseminated type)</td>
<td>336</td>
<td></td>
</tr>
<tr>
<td>Multiple abscesses</td>
<td>716</td>
<td></td>
</tr>
<tr>
<td>Multiple pigmented hemorrhagic sarcoma</td>
<td>229</td>
<td></td>
</tr>
<tr>
<td>Nevus pigmentosus unilateralis</td>
<td>467</td>
<td></td>
</tr>
<tr>
<td>Fractures, causes of delayed union and nonunion in fractures of long bones; W. L. Estes</td>
<td>326</td>
<td></td>
</tr>
<tr>
<td>Françon</td>
<td>Gaseous gangrene in typhoid</td>
<td>581</td>
</tr>
<tr>
<td>Fraser, A. R.</td>
<td>Case of intramune dermatitis</td>
<td>326</td>
</tr>
<tr>
<td>Fraser, J. F.</td>
<td>Congenital syphilis</td>
<td>341</td>
</tr>
<tr>
<td>Pathology of congenital syphilis</td>
<td>491</td>
<td></td>
</tr>
<tr>
<td>Frothingham, C.</td>
<td>Diagnosis of late syphilis of central nervous system</td>
<td>74</td>
</tr>
<tr>
<td>Frozen sections, method of clearing; H. H. Bullard</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>Fruhwald</td>
<td>Treatment of syphilis with silver salvarsan</td>
<td>583</td>
</tr>
<tr>
<td>Fuchs, D.</td>
<td>Persistent salvarsan exanthema</td>
<td>698</td>
</tr>
<tr>
<td>Fungus, clearing house for cutaneous fungi and blastomyces; F. D. Weidman</td>
<td>683</td>
<td></td>
</tr>
<tr>
<td></td>
<td>peculiar fungus infection of skin (soorpilze); M. F. Engman</td>
<td>370</td>
</tr>
<tr>
<td>Gangrene, gaseous, in typhoid; M. M. Weinberg and Françon</td>
<td>581</td>
<td></td>
</tr>
<tr>
<td>Gauvain, H. J.</td>
<td>Chemotherapy in cutaneous tuberculosis</td>
<td>77</td>
</tr>
<tr>
<td>Gerbay</td>
<td>Intramuscular arsenical treatment</td>
<td>452</td>
</tr>
<tr>
<td>Geroderma</td>
<td>See Wrinkled skin.</td>
<td></td>
</tr>
<tr>
<td>Gibson, H. E.</td>
<td>Comparison of two methods of administering arseno-benzol compounds</td>
<td>453</td>
</tr>
<tr>
<td>Gilchrist</td>
<td>Colloid or hyaline degeneration of skin</td>
<td>106</td>
</tr>
<tr>
<td>Pityriasis rubra pilaris on body associated with lichen planus in mouth</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Gilmour, A. J.: Case for diagnosis</td>
<td>701</td>
<td></td>
</tr>
<tr>
<td>Erythema perstans</td>
<td>349, 351</td>
<td></td>
</tr>
<tr>
<td>Milium with calcareous degeneration</td>
<td>352</td>
<td></td>
</tr>
<tr>
<td>Scleroderma</td>
<td>721</td>
<td></td>
</tr>
<tr>
<td>Syphilodermata after intensive treatment</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>Glanders, acute, in man; T. Hunter</td>
<td>695</td>
<td></td>
</tr>
<tr>
<td>Glasson: Method of treating tinea</td>
<td>381</td>
<td></td>
</tr>
<tr>
<td>Glossitis; F. Wise</td>
<td>726</td>
<td></td>
</tr>
<tr>
<td>Moeller’s; A. Rostenberg</td>
<td>116: 335</td>
<td></td>
</tr>
<tr>
<td>Goeckermann, W. H.: Congenital ectodermal defect, with report of case.</td>
<td>396</td>
<td></td>
</tr>
<tr>
<td>Gonorrhea, case of gonorrhea with arthritis and keratoses; N. P. Lang.</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>Goodman, H.: Intensive treatment of women with neodiarsenol.</td>
<td>211</td>
<td></td>
</tr>
<tr>
<td>Ulcerating granulomas of pudenda</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>Goodpasture, E. W.: Old age in relation to cell-overgrowth and cancer</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>Gottheil, W. S.: Dermatitis exfoliativa</td>
<td>458</td>
<td></td>
</tr>
<tr>
<td>For diagnosis (bullous dermatitis herpetiformis or erythema multiforme)</td>
<td>217</td>
<td></td>
</tr>
<tr>
<td>Leprosy</td>
<td>217</td>
<td></td>
</tr>
<tr>
<td>Graham-Little, E. G.: Case for diagnosis</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Grant, C. V.: Ivy and sumac poisoning</td>
<td>688</td>
<td></td>
</tr>
<tr>
<td>Granuloma fungoides; Hartzell</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>inguinale tropicam; A. W. Stillians</td>
<td>471</td>
<td></td>
</tr>
<tr>
<td>necrotic; W. B. Trimble</td>
<td>702</td>
<td></td>
</tr>
<tr>
<td>pyogenicum of lip; S. E. Sweitzer</td>
<td>358</td>
<td></td>
</tr>
<tr>
<td>ulcerating, of pudenda, review of literature with bibliography and some observations of disease as seen in Porto Rico; H. Goodman</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>Gray, A. M. H.: Angioma serpiginosum</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Lupus erythematosus</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Gumma, heart block caused by gumma of septum; F. W. Bridgeman and H. C. Schmeisser</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>multiple; O. L. Levin</td>
<td>223</td>
<td></td>
</tr>
<tr>
<td>of breast; L. Thompson</td>
<td>695</td>
<td></td>
</tr>
<tr>
<td>of forehead; M. B. Parounagian</td>
<td>738</td>
<td></td>
</tr>
<tr>
<td>of tongue; M. B. Parounagian</td>
<td>456</td>
<td></td>
</tr>
<tr>
<td>of tongue and epithelioma; B. Lapowski</td>
<td>344</td>
<td></td>
</tr>
<tr>
<td>of tongue: epitheliomatous degeneration; C. M. Williams</td>
<td>701</td>
<td></td>
</tr>
<tr>
<td>scrofulous, after roentgen treatment; G. M. MacKee</td>
<td>228</td>
<td></td>
</tr>
<tr>
<td>Gummatous osteitis of skull, surgical treatment of; A. W. Adson</td>
<td>584</td>
<td></td>
</tr>
<tr>
<td>von Haecke: Vitiligo and its relation to syphilis, acquired or hereditary.</td>
<td>213</td>
<td></td>
</tr>
<tr>
<td>Haguensau, J.: Icterus observed in course of neoarsphenamin treatment.</td>
<td>692</td>
<td></td>
</tr>
<tr>
<td>Hailperin, C. J.: Case for diagnosis</td>
<td>706</td>
<td></td>
</tr>
<tr>
<td>Hair follicles, hyperkeratosis of hair follicles in scurvy; H. Wiltshire.</td>
<td>447</td>
<td></td>
</tr>
<tr>
<td>Halsey, C. K.: Serologic cure in light of increasingly sensitive Wassermann tests</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>Handley, W. S.: Paget’s disease of nipple</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>Hansen’s disease; A. W. Stillians and F. E. Senear</td>
<td>588</td>
<td></td>
</tr>
<tr>
<td>Harris: Case of facial sarcoid</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Lingua nigra</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Xeroderma pigmentosa</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Hartzell, M. B.: Benign cystic epithelioma</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Case for diagnosis</td>
<td>102, 104</td>
<td></td>
</tr>
<tr>
<td>Cheilitis glandularis</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td>Granuloma fungoides</td>
<td>105</td>
<td></td>
</tr>
</tbody>
</table>
Hartzell, M. B.—Continued
Leukemia cutis ............................................ 106
Two unusual cases of ringworm, one of them due to fungus (trichophyton rossaeum) producing pink cultures.......... *1
Universal dermatitis following dermatitis herpetiformis. 100
Vitiligo ..................................................... 101
Xeroderma pigmentosum acquisita. 97
Havre, S. J.: Relation of aortic insufficiency to Wassermann test 325
Hazen, H. H.: Etiology of eczema ....................................... 642
Postinfluenzal alopecia .......................................... 68
Treatment of late syphilis ...................................... 211
Heart block caused by gumma of septum; F. W. Bridgeman and H. C. Schmeisser 68
Hemiatrophy of face; O. L. Levin 437
of face and scalp; O. L. Levin 709
Herpes zoster and varicella; E. Feer 693
of glasso-pharyngeal nerve; C. T. Neve 450
Highman, W. J.: Involved mycosis fungoides 715
Lupus erythematous disseminatus 227
Lupus erythematous in man of 45 729
Prurigo nodularis ........................................... 720
Purpura annularis telangiectoides 227
Radio-dermatitis ........................................... 712
Tyranny of Wassermann test 194
Hill, E.: Studies in X-ray effects: direct action of X-rays on transplantable cancers of mice. 76
Hodgkin's disease associated with cutaneous tumors; H. Fox 731
Hoffmann, E.: Protective function of skin (esophylaxis) 321
Hollander, L.: Urticaria probably due to syphilis .............................. *55
Howell, B. W.: Nevus of lower lip and lymphangioma of tongue 696
Hunter, T.: Acute glands in man 695
Hutchins, M. B.: Epidermophyton infection, "epidermophytosis" 63
Hutchinson, R. H.: Experiments with steam disinfectors in destroying lice in clothing 324
Hutinel, V.: Hereditary syphilis and dystrophies 575
Hydargism: See Mercurialism
Hyperhidrosis, case of acquired circumscribed hyperhidrosis; W. A. Pusey 438
localized; W. A. Pusey and F. E. Seneear 472
Hyperkeratosis and pigmentation; O. L. Levin 720
of hair follicles in seury; H. Wiltshire 447
Sudanese examples of two common hyperkeratases; A. J. Chalmers and A. Innes 320
Hyperpigmentation; O. S. Ormsby and Mitchell 474
of body occurring in spots; Strickler 99
Hypersensitiveness, résumé of some experimental studies on cutaneous hypersensitiveness; E. C. Fleischner, K. F. Meyer and E. B. Shaw 208
Ichthyosis vulgaris and von Recklinghausen's disease; E. W. Abramowitz 345
Ichthyotic condition with erythema (for diagnosis); H. H. Whitehouse 724
Icterni: See Jaundice
Ind. C.: Cure of multiple warts on face 449
Indolent sores on fingers; R. W. MacKenna 450
Influenza, acute striae atrophicae following influenzal pneumonia; E. A. Cockayne 212
postinfluenzal alopecia; H. H. Hazen 68
Innes, A.: Lichen scrofulosorum in Sudan 320
Sudanese examples of two common hyperkeratases 320
Intramine dermatitis, case of; A. R. Fraser 326
Irvine, H. G.: Psoriasis and leukoplakia 359
Irving, G.: Sublimed sulphur in mercurialism 585
Itching, chronic papular itching eruption of axillae and pubes (Fordyce); S. M. Withers 8
eruption (for diagnosis); E. L. McEwen 604
Ivy and sumac poisoning; E. A. Sweet and C. V. Grant 688
INDEX TO VOLUME 1

Jacob, L. H.: Treatment of chancre with high frequency vacuum electrode and copper sulphate solution.........................................................*434
Jaundice observed in course of neoarsphenamin treatment: J. Hagueau and C. Kudelski..................................................692
preliminary report on syphilitic and arsenical jaundice; G. O. Scott....208
Kaplan, D.: Syphilis and its serological significance..........................454
Kaposi’s sarcoma; See Sarcoma.
Keane, W. E.: Diagnosis of primary syphilis by culture.........................582
Kelly, F. H.: Acute erythema resembling measles..................................76
Keloid, extensive keloid scarring after burn; F. Wise and J. A. Fordyce..730
technic in radium treatment of keloid and other common skin lesions; R. Taft.................................................................698
Kennaway, E. L.: Complement fixation test in syphilis..........................206
Wassermann tests; occurrence of variations in results of successive tests 79
Keratoderma blennorrhagica; S. C. Dyke..............................................447
familial, and strabismus; J. F. Schamberg............................................100
syphilitic; E. P. Zeisler..................................................................746
Keratosis, case of gonorrhea with arthritis and keratoses; N. P. Lang....77
testicular; J. L. Büch.................................................................65
of lip; Schamberg........................................................................103
solar, and cutaneous cancer; J. N. McCoy............................................807
Kidney, syphilis of kidney, ureter and suprarenal; U. J. Wise..............413
Kime, R. K.: Treatment of larva migrans, or creeping eruption..............454
Kimura, N.: Effects of X-ray radiation on living carcinoma and sarcoma cells in tissue cultures in vitro..............................................71
Kingery, L. B.: Saturation in roentgen therapy: its estimation and main-
tenance..................................................................................*423
Kingsbury, J.: Epithelioma of nose.......................................................725
Leprosy.........................................................................................729
Paraffinoma...................................................................................737
Klaufer, J. V.: Early neurosyphilis symptomatica....................................209
Knox, R.: X-Ray therapy...................................................................446
Kolmer, J. A.: Hemolytic activity of solutions of arsphenamin and neo-
arsphenamin..................................................................................690
Human versus guinea-pig complement in serum diagnosis of syphilis
with special reference to methods employing human complement........204
Laboratory and clinical studies bearing on causes of reactions following
intravenous injections of arsphenamin and neo-arsphenamin..............235
Preservation of complement serum...................................................207
Kraurosis, precancerous lesions of skin of vulva; leukoplakic vulvitis,
kraurosis, pruritus; F. J. Taussig......................................................621
Kromayer light treatment of lupus vulgaris; J. J. Rothwell.................328
Kudelski, C.: Icterus observed in course of neo-arsphenamin treatment...692
Lane, J. E.: Case for diagnosis............................................................110
Vitiligo and syphilis: an examination of evidence for syphilitic origin
of vitiligo......................................................................................69
Lang, N. P.: Gonorrhea with arthritis and keratoses..............................77
Lantuejoul, P.: Motor troubles in zona.................................................323
Lapowski, B.: Annular psoriasis............................................................335
Carcinoma in syphilitic patient.............................................................380
Dactylitis syphilitica...........................................................................340
Gumma of tongue and epithelioma.......................................................344
Pellagra.............................................................................................339
Psoriasis (palm, body)........................................................................335
Syphilis palmaris and leukoplakia of tongue and cheeks....................335
Syphilis tuberculoverrucosa.................................................................346
Syphilis verruco-tuberculosa...............................................................339
Larva migrans, treatment of creeping eruption or; R. R. Kime............454
Latham, J. R.: Exfoliative dermatitis due to arsphenamin. report of fatal case 69
Le Clerc-Dandoy, L.: Venereal prophylaxis..........................................213
Leishmaniasis, “bosch-yaws,” the dermal leishmaniasis of Dutch Guiana; E. Bonne .................................................................320
Leonard, L. G.: Comparative value of novarsenobillon by intravenous and
intramuscular methods..................................................................449
Severe dermatitis during treatment with novarsenobillon.................451
<table>
<thead>
<tr>
<th>Index to Volume 1</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leprosy; W. S. Gottheil, 217; J. M. Armstrong, 360; J. Kingsbury</td>
<td>729</td>
</tr>
<tr>
<td>photographic study of leprosy; O. E. Denny</td>
<td>66</td>
</tr>
<tr>
<td>treatment of; A. Connal</td>
<td>319</td>
</tr>
<tr>
<td>Leptothrix; D. B. Phemister</td>
<td>592</td>
</tr>
<tr>
<td>Leukemia cutis; M. B. Hartzell</td>
<td>106</td>
</tr>
<tr>
<td>report of two cases of idiopathic hemorrhagic sarcoma (Kaposi) first complicated with lymphatic leukemia; H. N. Cole and E. S. Crump</td>
<td>*283</td>
</tr>
<tr>
<td>Leukoderma, familial leukonychia and leukoderma; H. C. Samuel</td>
<td>696</td>
</tr>
<tr>
<td>neurotic excoriations with leukoderma-like lesions; W. B. Parounagian</td>
<td>742</td>
</tr>
<tr>
<td>Leukonychia, familial leukonychia and leukoderma; H. C. Samuel</td>
<td>696</td>
</tr>
<tr>
<td>Leukoplakia and psoriasis; H. G. Irvine</td>
<td>359</td>
</tr>
<tr>
<td>precancerous lesions of skin of vulva; leukoplakic vulvitis, kraurosis, pruritus; F. J. Taussig</td>
<td>*621</td>
</tr>
<tr>
<td>semeiologic value of buccal leukoplakia; P. Fernet</td>
<td>206</td>
</tr>
<tr>
<td>syphilis palmaris and leucoplakia of tongue and cheeks; B. Lapowski</td>
<td>335</td>
</tr>
<tr>
<td>Levin, O. L.: Case for diagnosis</td>
<td>701</td>
</tr>
<tr>
<td>Case for diagnosis (ringworm?)</td>
<td>353</td>
</tr>
<tr>
<td>Hemiatrophia facialis</td>
<td>437</td>
</tr>
<tr>
<td>hemiatrophy of face and scalp</td>
<td>709</td>
</tr>
<tr>
<td>Lupus erythematosus</td>
<td>733</td>
</tr>
<tr>
<td>Lupus erythematosus in syphilitic patient</td>
<td>219</td>
</tr>
<tr>
<td>Lupus vulgaris</td>
<td>705</td>
</tr>
<tr>
<td>Multiple benign tumor-like new growths</td>
<td>456</td>
</tr>
<tr>
<td>Multiple gummas</td>
<td>222</td>
</tr>
<tr>
<td>Pigmentation and hyperkeratosis</td>
<td>720</td>
</tr>
<tr>
<td>Pityriasis rubra pilaris</td>
<td>218</td>
</tr>
<tr>
<td>Sarcomata</td>
<td>710</td>
</tr>
<tr>
<td>Sclerodermia in child</td>
<td>215</td>
</tr>
<tr>
<td>Levin, W.: Incidence of syphilis among white and colored troops as indicated by an analytical study of Wassermann results in over 10,000 cases</td>
<td>325</td>
</tr>
<tr>
<td>Lewis, P. O.: One aspect of syphilis as community problem</td>
<td>74</td>
</tr>
<tr>
<td>Lice, experiments on destruction of lice and nits; A. Bacot and G. Talbot</td>
<td>450</td>
</tr>
<tr>
<td>experiments with steam disinfectors in destroying lice in clothing; R. H. Hutchinson</td>
<td>324</td>
</tr>
<tr>
<td>Lichen nitidus; W. B. Trimble</td>
<td>468</td>
</tr>
<tr>
<td>planus annularis; Ormsby, 94; W. B. Parounagian, 219; J. J. Rothwell</td>
<td>721</td>
</tr>
<tr>
<td>328; L. Chargin and E. W. Abramowitz</td>
<td>329</td>
</tr>
<tr>
<td>planus, clinical study; G. D. Culver</td>
<td>*43</td>
</tr>
<tr>
<td>planus, generalized; F. Wise</td>
<td>467</td>
</tr>
<tr>
<td>planus hypertrophicus with follicular lesions; F. Wise</td>
<td>222</td>
</tr>
<tr>
<td>planus, pityriasis rubra pilaris on body associated with lichen planus in mouth; Gilchrist</td>
<td>105</td>
</tr>
<tr>
<td>planus, three cases of, in children; H. G. Adamson</td>
<td>582</td>
</tr>
<tr>
<td>sclerosis or atrophicus; B. J. Ochs, 216; W. A. Pusey and F. E. Senear</td>
<td>610</td>
</tr>
<tr>
<td>scrofulosorum; H. Fox</td>
<td>354</td>
</tr>
<tr>
<td>scrofulosorum in Sudan; A. J. Chalmers and A. Innes</td>
<td>320</td>
</tr>
<tr>
<td>spinulosus and folliculitis decalvans; O. S. Ormsby</td>
<td>471</td>
</tr>
<tr>
<td>Lieberthal, D.: Blastomycesis</td>
<td>477</td>
</tr>
<tr>
<td>Case for diagnosis</td>
<td>92</td>
</tr>
<tr>
<td>Erythema induratum of legs with tuberculids of fingers</td>
<td>590</td>
</tr>
<tr>
<td>Pemphigus vulgaris</td>
<td>615</td>
</tr>
<tr>
<td>Persistent eczema</td>
<td>483</td>
</tr>
<tr>
<td>Tuberculosis of skin</td>
<td>476</td>
</tr>
<tr>
<td>Lingua nigra; Harris</td>
<td>93</td>
</tr>
<tr>
<td>Lip, epithelioma of lip; J. J. Rothwell, 332; M. Parounagian</td>
<td>335</td>
</tr>
<tr>
<td>epithelioma of upper lip; superficial flat type; W. B. Trimble</td>
<td>466</td>
</tr>
<tr>
<td>keratosis of lip; J. F. Schamberg</td>
<td>103</td>
</tr>
<tr>
<td>squamous-cell epithelioma of lip; A. C. Broders</td>
<td>683</td>
</tr>
<tr>
<td>Liver, atrophic cirrhosis of liver with inherited syphilis; C. Bonorino</td>
<td>586</td>
</tr>
<tr>
<td>Udaondo and J. E. Carulla</td>
<td>*139</td>
</tr>
<tr>
<td>syphilis of; U. J. Wile</td>
<td>697</td>
</tr>
<tr>
<td>two unusual phases of hepatic syphilis; U. J. Wile</td>
<td>*656</td>
</tr>
<tr>
<td>Low, R. C.: Tuberculids and their relation to tuberculosis of skin and other organs</td>
<td>577</td>
</tr>
</tbody>
</table>
INDEX TO VOLUME I

<table>
<thead>
<tr>
<th>Page</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>451</td>
<td>Lungs, pathologic study of lungs in 152 necropsy cases of syphilis; J. L. Carrera</td>
</tr>
<tr>
<td>68</td>
<td>Lunula, signification of lunula of nail; M. T. Burrows</td>
</tr>
<tr>
<td>735</td>
<td>Lupus erythematosus; A. M. H. Gray, 64; J. F. Schambm, 99; A. W. Stiffans, 479; O. S. Ormsby and J. H. Mitchell, 997; I. Rosen, 717; Levir</td>
</tr>
<tr>
<td>613</td>
<td>erythematosus and Raynaud’s disease; O. S. Ormsby and Mitchell</td>
</tr>
<tr>
<td>327</td>
<td>erythematosus associated with streptocoical infection of tonsils; H. W. Barber</td>
</tr>
<tr>
<td>219</td>
<td>erythematosus disseminatus; F. Wise, 226; W. J. Highman, 220; L. Chargin</td>
</tr>
<tr>
<td>111</td>
<td>erythematosus in man of 45; W. J. Highman</td>
</tr>
<tr>
<td>351</td>
<td>erythematosus, simple method of treatment; W. D. Small</td>
</tr>
<tr>
<td>714</td>
<td>erythematosus vs. lupus vulgaris, for diagnosis; H. Fox</td>
</tr>
<tr>
<td>451</td>
<td>miliary; MacKee</td>
</tr>
<tr>
<td>77</td>
<td>of upper air passages; R. Webber</td>
</tr>
<tr>
<td>705</td>
<td>pierc-brass preparations in treatment of lupus and other forms of tuberculosis; H. A. Ellis</td>
</tr>
<tr>
<td>729</td>
<td>vulgaris; F. Wise, 229; M. Scheer, 344; O. L. Levin</td>
</tr>
<tr>
<td>226</td>
<td>vulgaris (disseminated follicular type); H. Fox</td>
</tr>
<tr>
<td>709</td>
<td>vulgaris disseminatus; H. Fox</td>
</tr>
<tr>
<td>336</td>
<td>vulgaris (follicular disseminated type); H. Fox</td>
</tr>
<tr>
<td>328</td>
<td>vulgaris (showing result of Kromayer light treatment); J. J. Rothwell</td>
</tr>
<tr>
<td>401</td>
<td>vulgaris, treatment of; R. W. McKenna</td>
</tr>
<tr>
<td>28</td>
<td>Lymphangioma circumspectum; F. Wise</td>
</tr>
<tr>
<td>696</td>
<td>of tongue and nevus of lower lip; B. W. Howell</td>
</tr>
<tr>
<td>217</td>
<td>Lymphogranuloma; M. B. Parounagian</td>
</tr>
<tr>
<td>326</td>
<td>McConnell, G.; Delayed negative Wassermann reaction</td>
</tr>
<tr>
<td>65</td>
<td>MacCormac, H.; Delhi boil</td>
</tr>
<tr>
<td>175</td>
<td>McCoy, J. N.; Solar keratoses and cutaneous cancer</td>
</tr>
<tr>
<td>687</td>
<td>McDonagh, J. E. K.; Early nervous syphilis after arsenobenzene</td>
</tr>
<tr>
<td>322</td>
<td>Venereal diseases as we see them today</td>
</tr>
<tr>
<td>65</td>
<td>Macdonald, G.; Myositis ossificans</td>
</tr>
<tr>
<td>470</td>
<td>McEwen, E. L.; Case for diagnosis</td>
</tr>
<tr>
<td>604</td>
<td>Itching eruption (for diagnosis)</td>
</tr>
<tr>
<td>600</td>
<td>Phagedenic ulcers</td>
</tr>
<tr>
<td>612</td>
<td>Pigmentary syphilid</td>
</tr>
<tr>
<td>598</td>
<td>Swelling of neck; branchial cyst</td>
</tr>
<tr>
<td>599</td>
<td>Ulcer of foot</td>
</tr>
<tr>
<td>70</td>
<td>MacKee, G. M.; Eczema from dermatological point of view</td>
</tr>
<tr>
<td>109</td>
<td>Miliary lupus</td>
</tr>
<tr>
<td>346</td>
<td>Multiple benign cystic epithelioma</td>
</tr>
<tr>
<td>229</td>
<td>Neurotic excoriations</td>
</tr>
<tr>
<td>256</td>
<td>Pigmentation with atrophoderma on right thigh</td>
</tr>
<tr>
<td>348</td>
<td>Scrofulous gummas after roentgen treatment</td>
</tr>
<tr>
<td>228</td>
<td>MacKenna, R. W.; Indolent sores on fingers</td>
</tr>
<tr>
<td>430</td>
<td>Treatment of lupus vulgaris</td>
</tr>
<tr>
<td>448</td>
<td>MacLeod, J. M. H.; Vaccines in treatment of cutaneous disease</td>
</tr>
<tr>
<td>213</td>
<td>McNitt, W.; Incidence of syphilis as manifested by routine Wassermann reaction on 2,925 hospital and dispensary medical cases</td>
</tr>
<tr>
<td>210</td>
<td>Macular atrophy following syphilis; E. P. Zeisler</td>
</tr>
<tr>
<td>747</td>
<td>McVail, J. C.; Milroy lectures on half a century of smallpox and vaccination</td>
</tr>
<tr>
<td>77</td>
<td>McWhirter, A. T.; Wassermann test; criticism of its reliability</td>
</tr>
<tr>
<td>613</td>
<td>Majocchi’s disease; E. P. Zeisler</td>
</tr>
<tr>
<td>520</td>
<td>purpura annularis telangiectodes (Majocchi’s disease); L. Weiss</td>
</tr>
<tr>
<td>66</td>
<td>Malingering, dermatologic; Courtois-Suffit and L. Miriel</td>
</tr>
<tr>
<td>324</td>
<td>Mann, F. C.; Attempts to obtain transplantable tumor in higher species of animals</td>
</tr>
<tr>
<td>320</td>
<td>Marshall, A.; Tricophyton currit</td>
</tr>
</tbody>
</table>

*Page numbers marked with an asterisk are not provided in the index.*
INDEX TO VOLUME 1

Neo-arsphenamin, comparative value of novarsenobillon by intravenous and
imtramuscular methods; L. G. Leonard.......................... 449
hemolytic activity of solutions of arsphenamin and neo-arsphenamin;
J. A. Kolmer and E. M. Yagle........................................ 690
icterus observed in course of neo-arsphenamin treatment; J. Haguenau
and C. Kudelski...................................................... 692
intensive treatment of women with neoharsenol; H. Goodman........ 211
laboratory and clinical studies bearing on causes of reactions following
intravenous injections of arsphenamin and neo-arsphenamin; second
communication; J. F. Schamberg, J. A. Kolmer, G. W. Raiziss and
C. Weiss............................................................... *235
primary toxic effect of neo-salvarsan; K. Petren.................... 446
severe dermatitis during treatment with novarsenobillon; L. G. Leonard 451
Neo-salvarsan: See Neo-arsphenamin.
Neurodermite: F. Wise................................................ 736
Neurofibroma; J. J. Rothwell........................................ 338
Neuroretinitis, syphilitic; H. V. Würdemann.................... 585
Neurosyphilis: See Syphilis.
Neve, C. T.: Herpes zoster of glosso-pharyngeal nerve.......... 450
Neve, E. F.: Cutaneous anthrax.................................. 449
Nevus lateralis, hyperkeratotic type; E. W. Abramowitz........ 344

linear, psoriasiform type; O. S. Ormsby and Mitchell........ 614
nonpigmented linear; A. W. Stillians............................... 479
of lower lip and lymphangiomata of tongue: B. W. Howell...... 696
pigmentosus unilateralis; H. Fox.................................. 467
piilosus et pigmentosus; Scheer.................................... 109
verrucosus; Abramowitz............................................ 111
New York Dermatological Society, semi-centennial celebration; G. H. Fox 80
Newcomer, H. S.: One aspect of syphilis as community problem...... 74
Nicholls, L.: Etiology of sprue, pellagra and scurvy............ 319
Nicholson, S. T.: Treatment of syphilis of central nervous system.. 213
Nicolas, J.: Cancer of face resembling actinomycosis........... 452
Nipples, eczema of; W. B. Trimble................................ 464
Paget’s disease of; W. S. Handley................................. 210
Nits, experiments on destruction of lice and nits; A. Bacot and G. Talbot 450
Nordmann, A.: Syphilis without primary lesion .................. 203
Novarsenobillon: See Neo-arsphenamin.

Obituaries:
Death’s toll among American dermatologists.......................... 59
Frederick J. Leviseur, 1860-1920.................................. 572
Henry Weightman Stelwagon, 1853-1919............................ 191
Joseph Zeisler, 1858-1919........................................ 61
W. S. Gottheil, 1859-1920........................................ 681
Ochs, B. F.: Alopecia totalis (treated with carbolic acid). .... 459
Blastomycosis......................................................... 734
Geographical tongue (erythema migrans)........................... 219
Lichen sclerosis or atrophicus...................................... 216
Old age in relation to cell-overgrowth and cancer; E. W. Goodpasture and
G. B. Wislocki........................................................ 67
O’Leary: Case for diagnosis......................................... 605
Oliver, M. S.: Case for diagnosis.................................. 481
Oliver, W. W.: Cultural studies on case of sprue................ 326
Olson, G. M.: Extragential chancre of mucous membrane of cheek.. 359
Thrush................................................................. 359
Veneroid ulcer......................................................... 279
Oriental sore, photograph of; J. F. Waugh......................... 478
Ormsby, O. S.: Case for diagnosis.................................. 591, 594
Dermatitis repens..................................................... 598
Folliculitis decalvans and lichen spinulosus..................... 471
Hyperpigmentation................................................... 474
Lichen planus annularis............................................. 94
Linear nevus, psoriasiform type................................... 614
Lupus erythematosus................................................ 597
Lupus erythematosus and Raynaud’s disease....................... 613
Multiple idiopathic hemorrhagic sarcoma.......................... 603
## INDEX TO VOLUME 1

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ormsby, O. S.—Continued</td>
<td></td>
</tr>
<tr>
<td>Phagedenic ulcer</td>
<td>478</td>
</tr>
<tr>
<td>Psoriasis</td>
<td>90</td>
</tr>
<tr>
<td>Sarcoïd</td>
<td>480, 596</td>
</tr>
<tr>
<td>Osteitis, surgical treatment of gummatus osteitis of skull; A. W. Adson</td>
<td>584</td>
</tr>
<tr>
<td>Oulmann, L.: For diagnosis</td>
<td>740</td>
</tr>
<tr>
<td>Multiple verrucae</td>
<td>357</td>
</tr>
<tr>
<td>Owen, R. G.: Icebox fixation method in performance of Wassermann reaction</td>
<td>587</td>
</tr>
<tr>
<td>Paget’s disease of nipple; W. S. Handley</td>
<td>210</td>
</tr>
<tr>
<td>Paraffinoma; J. Kingsbury</td>
<td>737</td>
</tr>
<tr>
<td>Parapsoriasis; E. P. Zeisler</td>
<td>610</td>
</tr>
<tr>
<td>lichenoides and psoriasiformis; J. F. Schamberg</td>
<td>101</td>
</tr>
<tr>
<td>Pardee, L. C.: Epidermolysis bullosa</td>
<td>92</td>
</tr>
<tr>
<td>Parounagian, M. B.: Alopecia totalis</td>
<td>220</td>
</tr>
<tr>
<td>Arsenical pigmentation</td>
<td>739</td>
</tr>
<tr>
<td>Case for diagnosis</td>
<td>221</td>
</tr>
<tr>
<td>Chancre on right tonsil</td>
<td>460</td>
</tr>
<tr>
<td>Epithelioma of lip</td>
<td>335</td>
</tr>
<tr>
<td>Epithelioma of tonsils, with syphilitic condition</td>
<td>458</td>
</tr>
<tr>
<td>Gumma of forehead</td>
<td>738</td>
</tr>
<tr>
<td>Gumma of tongue</td>
<td>456</td>
</tr>
<tr>
<td>Lichen planus annularis</td>
<td>219</td>
</tr>
<tr>
<td>Lymphogranuloma</td>
<td>217</td>
</tr>
<tr>
<td>Neutroic excoriations with leukoderma-like lesions</td>
<td>742</td>
</tr>
<tr>
<td>Pityriasis rosea</td>
<td>221</td>
</tr>
<tr>
<td>Scleroderma treated by endocrins</td>
<td>460</td>
</tr>
<tr>
<td>Patterson, N.: Diathermy</td>
<td>448</td>
</tr>
<tr>
<td>Pellagra; B. Lapowski</td>
<td>339</td>
</tr>
<tr>
<td>etiolo of sprue, pellagra and scurvy; L. Nicholls</td>
<td>319</td>
</tr>
<tr>
<td>Pemphigus; A. W. Stillians and F. E. Senear</td>
<td>614</td>
</tr>
<tr>
<td>chronic pemphigus vegetans of several years’ duration; L. F. Barker and D. W. Carter, Jr.</td>
<td>76</td>
</tr>
<tr>
<td>vulgaris; D. Lieberthal</td>
<td>615</td>
</tr>
<tr>
<td>Penis, epithelioma of penis healed by curettage and acid nitrate of mercury; W. B. Trimble</td>
<td>733</td>
</tr>
<tr>
<td>Percival, J. A.: Case of congenital multiple sarcomatosis</td>
<td>446</td>
</tr>
<tr>
<td>Permet, G.: Shaving-brush anthrax of face</td>
<td>695</td>
</tr>
<tr>
<td>Petren, K: Primary toxic effect of neo-salvarsan</td>
<td>446</td>
</tr>
<tr>
<td>Phagedenic ulcer; O. S. Ormsby and Mitchell, 478; E. L. McEwen...600</td>
<td>601</td>
</tr>
<tr>
<td>Phemister, D. B.: Leptotheix</td>
<td>592</td>
</tr>
<tr>
<td>Phenol, repeated application of 95 per cent. phenol solution in lupus erythematosus; P. E. Bechet</td>
<td>351</td>
</tr>
<tr>
<td>Peircic-brass preparations in lupus and other forms of tuberculosis; H. A. Ellis</td>
<td>77</td>
</tr>
<tr>
<td>Pighini, G.: Early manifestations of syphils of central nervous system in combatants</td>
<td>583</td>
</tr>
<tr>
<td>Pigmentary disease of skin, Schamberg’s; H. G. Adamson</td>
<td>326</td>
</tr>
<tr>
<td>Pigmentation and hyperkeratosis; O. L. Levin</td>
<td>720</td>
</tr>
<tr>
<td>with atrophoderma on right thigh; G. M. MacKee</td>
<td>348</td>
</tr>
<tr>
<td>Fijper, A.: Damaged goods</td>
<td>454</td>
</tr>
<tr>
<td>Pityriasis lichenoides chronica; F. Wise, 352; H. E. Michelson</td>
<td>358</td>
</tr>
<tr>
<td>psoriasis, seborrhoeic dermatitis and pityriasis rosea; W. A. Pusey and F. E. Senear</td>
<td>589</td>
</tr>
<tr>
<td>rosea; M. B. Parounagian</td>
<td>221</td>
</tr>
<tr>
<td>rubra pilaris; Strickler, 101; O. L. Levin, 218; P. E. Bechet, 705; W. B. Trimble</td>
<td>732</td>
</tr>
<tr>
<td>rubra pilaris on body associated with lichen planus in mouth; Gilchrist</td>
<td>105</td>
</tr>
<tr>
<td>Pollitzer, S.: General prognosis of syphils in light of recent progress</td>
<td>693</td>
</tr>
<tr>
<td>Potassium iodid, intravenous injection of in tabes dorsalis; F. J. Devota</td>
<td>76</td>
</tr>
<tr>
<td>Potthoff, E. W.: Case for diagnosis</td>
<td>482</td>
</tr>
<tr>
<td>Chancre of chin</td>
<td>480</td>
</tr>
<tr>
<td>Precancerous lesions: See Cancer.</td>
<td></td>
</tr>
<tr>
<td>Prime, F.: Effect of X-ray on tumors</td>
<td>71</td>
</tr>
</tbody>
</table>
INDEX TO VOLUME 1

Pringle, J. J.: Probable early miscalled multiple idiopathic hemorrhagic sarcoma of Kaposi ........................................ 64
Protein, incidence of protein sensitization in normal child; H. M. Baker. 453
Prurigo lymphatica; L. Chargin ........................................ 333
nodularis; Schamberg, 102; W. J. Highman ................................ 720
Pseudopelade; A. W. Stillians ........................................ 476
Pseudopityriasis, cultural characters of trichophyton balaneum cast, the cause of pseudopityriasis capitis; A. Castellani ........................................ 321
Psoriasis; O. S. Ormsby ........................................ 90
acute psoriasis and zoster; J. M. Winfield ................................ 728
and dermatitis exfoliativa; E. W. Abramowitz ................................ 713
and leukoplakia; H. G. Irvine ........................................ 359
annular; B. Lapowski ........................................ 335
hydrargism from application of weak ammoniated mercury ointment in treatment of psoriasis; P. E. Bechet ........................................ 636
of palm and body; B. Lapowski ........................................ 335
parasitic theory of; L. Bory ........................................ 587
seborrhoeic dermatitis and pityriasis rosea; W. A. Pusey and F. E. Senear ........................................ 589
Pubes, chronic papular itching eruption of axillae and pubes (Fordsyce): S. M. Withers ........................................ 8
Purpura annularis telangiectodes; W. J. Highman ........................................ 227
annularis telangiectodes (Majocchi's disease); L. Weiss ........................................ 520
Pusey, W. A.; Case of acquired circumscribed hyperhidrosis ........................................ 438
Dermatitis herpetiformis ........................................ 744
Eczema ........................................ 609
Lichen sclerosis et atrophicus ........................................ 610
Localized hyperhidrosis ........................................ 473
Neurotic excoriations with report of cases ........................................ 270
Psoriasis, seborrhoeic dermatitis and pityriasis rosea ........................................ 589
Universal exfoliative dermatitis from sodium cacodylate ........................................ 57
Quinin, skin reactions to apothesin and quinin in susceptible persons; W. H. Mook ........................................ 651
Radio-dermatitis; W. J. Highman ........................................ 712
Radium, case illustrating value of radium in verrucae planae; D. W. Montgomery and G. D. Culver ........................................ 697
late and distant effects of; J. Ewing ........................................ 70
pathological changes accompanying injections of an active deposit of radium emanation; intravenous and subcutaneous injections in white rats; H. J. Bagg ........................................ 580
technic in radium treatment of keloid and other common skin lesions; R. Taft ........................................ 698
therapy, status of radium-therapy in dermatology; W. H. B. Aikins ........................................ 81
of epithelioma; R. H. Boggs ........................................ 73
Raiziss, G. W.; Laboratory and clinical studies bearing on causes of reactions following intravenous injections of arsphenamin and neo-arsphenamin ........................................ 235
Rappleye, W. C.; Effect of intravenous diarsenol ........................................ 69
Raynaud's disease and lupus erythematosus; O. S. Ormsby and Mitchell ........................................ 613
Recklinghausen's disease; J. F. Wangh ........................................ 609
ichthyosis vulgaris and von Recklinghausen's disease; E. W. Abramowitz ........................................ 345
Regan, C. and Regan, J. C.; Human anthrax ........................................ 72
Remer, J.; Practical method of roentgen-ray dosage without aid of radiometer ........................................ 558
Renard, L.; Cyanide of mercury intravenously ........................................ 325
Rhus poisoning; See Ivy poisoning ........................................ 587
Ribbert, H.; Origin of tumors ........................................ 587
Richardson, R.; One aspect of syphilis as community problem ........................................ 74
Rille; Treatment of syphilis with silver salvarsan ........................................ 583
Ringworm, need for study of ringworm in America ........................................ 440
simple treatment of ringworm of nails; Craik ........................................ 696
two unusual cases of ringworm, one of them due to fungus (trichophyton rosaceum) producing pink cultures; M. B. Hartzell ........................................ 1
INDEX TO VOLUME 1

Roberts, P. W.; Congenital syphilis in orthopedic clinics..........................210
Roentgen ray, changes in lymphoid organs after small doses of X-rays;
W. Nakahara ................................................................. 75
destructive action on blood cells; H. D. Taylor, W. D. Witherbee and
J. B. Murphy ............................................................... 74
direct action of X-rays on transplantable cancers of mice; E. Hill, J. J.
Morton and W. D. Witherbee ................................................ 76
effect of, on tumors; F. C. Wood and F. Prime .................................. 71
effects of X-ray irradiation on living carcinoma and sarcoma cells in
tissue cultures in vitro; N. Kimura ................................................ 71
experimental studies with small doses of X-rays; S. Russ, H. Chambers,
G. Scott and J. C. Mottram .................................................. 78
physics of roentgen ray; J. S. Shearer ......................................... *664
practical method of roentgen ray dosage without aid of radiometer;
W. D. Witherbee and J. Remer ............................................. *558
stimulative action of, on lymphocytes; M. M. Thomas, H. D. Taylor and
W. D. Witherbee ............................................................... 75
treatment; R. Knox .............................................................. 446
treatment, saturation in roentgen therapy: its estimation and mainte-
tenance; preliminary report; L. B. Kingery ................................ *423
treatment, scrofulous gummas after; G. M. MacKee .............................. 228
Rosen, I.: Adenoma sebaceum .................................................. 329
Dermatitis medicamentosa .......................................................... 355
Lupus erythematosus ............................................................... 717
Papulo-necrotic tuberculid ....................................................... 350
Ulerythema ophryogenes .......................................................... 353
Rostenberg, A.: Moeller's glossitis .............................................. 116, 335
Tuberculosis mucosae oris ........................................................ 708
Rothwell, J. J.: Adenoma sebaceum .............................................. 700
Annular lichen planus ............................................................. 328
Charcot's knees (syphilis congenita) ............................................. 706
Epithelioma of lip .............................................................. 332
Lupus vulgaris (showing result of Kromayer light treatment) ............ 328
Morpha ............................................................... 337
Neurofibroma ................................................................. 338
Russ, S.: Experimental studies with small doses of X-rays ..................... 78
Rutherford, W. J.: Epidemic of alopecia ........................................ 580
Sabouraud, R.: Contagiousness of favus in man .................................. 448
Samuel, H. C.: Familial leukonychia and leukoderma .......................... 696
Sarcoïd; O. S. Ormsby; 480, 596; O. L. Levin ................................ 710
facial; Harris ................................................................. 93
Sarcoma, congenital multiple sarcomatosis; J. A. Percival ...................... 446
effects of X-ray irradiation on living carcinoma and sarcoma cells in
tissue cultures in vitro; N. Kimura ............................................... 71
Kaposi's; W. B. Trimbile ......................................................... 332
multiple idiopathic hemorrhagic sarcoma; O. S. Ormsby ..................... 603
multiple pigmented hemorrhagic sarcoma; H. Fox ............................ 229
multiple pigmented idiopathic sarcoma (Kaposi); E. F. Skinner .......... 213
probable early miscalled multiple idiopathic sarcoma of Kaposi; J. J.
Pringle ................................................................. 64
report of two cases of idiopathic hemorrhagic sarcoma (Kaposi) first
complicated with lymphatic leukemia; H. N. Cole and E. S. Crump. *283
Scalp, hemiatrophy of face and scalp; O. L. Levin ................................ 709
Scars, hypertrophic scars; G. H. Fox ........................................... 224
peculiar scarring in North African negro; F. Wise ............................ 222
Schamberg, J. F.: Circumscribed scleroderma of face associated with
cretinism ................................................................. 99
Familial keratoderma and strabismus ............................................ 100
Keratosis of lip ........................................................................ 103
Laboratory and clinical studies bearing on causes of reactions following
intravenous injections of arsphenamin and neo-arsphenamin ........... *235
INDEX TO VOLUME 1

Schamberg, J. F.—Continued

Lupus erythematosus .......................................................... 99
Parapsoriasis lichenoides and psoriastiformis ......................... 101
Prurigo nodularis .................................................................. 102
Unilateral acromegaly .............................................................. 104
Xanthoma diabeticum .............................................................. 98
Schamberg’s peculiar progressive pigmentary disease of skin; H. G. Adamson ......................................................... 326
Lupus erythematosus of face: tuberculosis of buttocks; papulonecrotic tuberculids of forearm ........................................... 111
Lupus vulgaris ....................................................................... 344
Nevus pilosus et pigmentosus ................................................ 109
Schmeisser, H. C.: Heart block caused by gumma of septum .... 68
Scholtz, M.: Acrodermatitis chronica atrophicans with report of case ........................................................................... 565
Dermatologic misnomers .......................................................... 182
Sclerodactyly and scleroderma: report of case with roentgen rays and review of literature; R. M. Atwater .................................. 73
Scleroderma; F. H. Barendt, 697; A. J. Gilmour ......................... 721
Scurvy, etiology of sprue, pellagra and scurvy; L. Nicholls ......... 319
hyperkeratosis of hair follicles in scurvy; H. Wiltshire .......... 447
Semon, H. C.: Sycosis barbae ................................................... 321
Senear, F. E.: Blastomycosis ..................................................... 589
Case for diagnosis .................................................................. 476, 699
eczema ................................................................................... 600
erythema nodosum syphiliticum ............................................. 607
Hansen’s disease .................................................................... 588
lichen sclerosis et atrophicus .................................................. 610
localized hyperhidrosis ............................................................ 472
neurotic excoriations with report of cases ............................. 270
Pemphigus ............................................................................. 614
Psoriasis, seborrheic dermatitis and pityriasis rosea ................ 589
Sequeira, J. H.: Vaccine therapy in diseases of skin .................... 209
Shaw, B. H.: Action of syphilis on native complement .............. 449
Shaw, E. B.: Résumé of some experimental studies on cutaneous hypersensitiveness ......................................................... 208
Shearer, J. S.: Physics of roentgen ray ..................................... *664
Silver salvarsan: See Arsenophenamin.
Sireci, D.: Action of ultraviolet rays on blood serum, leukocytes and bacteria ............................................................. 696
Skin, atrophy of; A. W. Stillians ............................................. 395
calcereous deposits in skin; Fernet and Nahan ....................... 386
diseases, vaccines in treatment of; J. M. H. MacLeod and W. W. C. Topley ................................................................. 213
diseases, vaccine therapy in; J. H. Sequeira and G. T. Western, 209
A. Whitfield ............................................................................. 211
protective function of skin (esophylaxis); E. Hoffmann .......... 321
Skinner, E. F.: Multiple pigmented idiopathic sarcoma (Kaposi) 213
Slye, M.: Relation of inbreeding to tumor production; stigma in incidence and inheritability of spontaneous tumors in mice .......... 698
Smallpox, Milroy lectures on half century of smallpox and vaccination; J. C. McVail ............................................................... 77
Smith, J. F.: Case of papula necrotic tuberculid .................................. 212
Society Transactions:
American Dermatological Association ................................................. 97
Chicago Dermatological Society ......................................................... 469, 478, 588, 743
Manhattan Dermatological Society .................................................... 215, 350, 456, 734
Minnesota Dermatological Society ..................................................... 358
New York Academy of Medicine, Section on Dermatology and Syphilis .... 109, 328, 341, 699, 714
New York Dermatological Society ..................................................... 80, 223, 461, 722, 731
Sodium cacodylate, universal exfoliative dermatitis from; W. A. Pusey .... 57
Solar keratoses and cutaneous cancer; J. N. McCoy ................................ 175
Solomon, H. C.: Agreement in results of Wassermann reaction ............. 692
Nonconcomitance of spinal fluid tests .............................................. 323
Soorpile, peculiar fungus infection of skin (soorpile?) ; M. F. Engman .. 370
Souques, A.: Gerodermie infantile ..................................................... 584
"Spirochetes" derived from red blood corpuscles; F. Eberson .................. 638
Spleen, size of spleen in immune mice; W. H. Woglos ................................ 72
Spore identifications in scrapings; R. W. Bachman .............................. 50
Sprue, cultural studies on; W. W. Oliver  ........................................... 326
etiology of sprue, pellagra and scurvy; L. Nicholls ................................ 319
Steam disinfectors for destroying lice in clothing; R. H. Hutchinson .... 324
Steatoma; A. W. Stillians ................................................................. 96
Stern, C.: Avoidance of untoward results following arsphenamin admin- istration .......................................................... 206
Stevenin, H.: Hereditary syphilis and dystrophies ............................... 575
Stillians, A. W.: Atrophy of skin ....................................................... 94, 589
Blastomycosis ............................................................................. 95, 469, 470, 477
Case for diagnosis ............................................................................ 407
Erythema nodosum syphiliticum .......................................................... 745
Exfoliative dermatitis ................................................................. 90, 471
Exfoliative dermatitis of fingers .......................................................... 588
Granuloma inguinale tropicum ........................................................... 479
Hansen's disease .............................................................................. 484
Lupus erythematosus ................................................................. 497, 745
Macular atrophy of skin ................................................................. 534
Nonpigmented linear nevus ............................................................... 72
Pemphigus ................................................................................ 614, 102
Premycotic dermatitis ..................................................................... 611
Pseudopelade ................................................................................ 476
Steatoma ....................................................................................... 93
Syphilis ......................................................................................... 745
Stokes, J. H.: Arsphenamin treatment of tuberculids ............................ 573
Clinical studies on cutaneous aspects of tuberculosis: therapeutic man- 
agement of tuberculids with specific reference to efficiency of  
arsphenamin ........................................................................... 72, 212
Stomach, syphilis of stomach; U. J. Wile ........................................ 543
Stone, W. S.: Study of chemical composition of blood in cancer .......... 324
Strabismus, familial keratodermia and strabismus; J. F. Schamberg ...... 100
Striae, acute striae atrophicae following influenzal pneumonia; E. A.  
Cockayne .............................................................................. 212, 102
Strickler: Acnitis ............................................................................ 101
Addison's disease ........................................................................... 99
Hyperpigmentation of body occurring in spots .................................... 101
Pityriasis rubra pilaris ..................................................................... 103
Tuberculosis of mucous membrane of mouth ................................... 452
Sulfarsenol, intramuscular arsenical treatment; L. Gerby ...................... 585
Sulphur, sublimed sulphur in mercurialism; G. Irving ........................ 688
Sumac and ivy poisoning; E. A. Sweet and C. V. Grant .................... 614
Suprarenal, syphilis of kidney, ureter and suprarenal; U. J. Wile .......... 413
Sutton, R. L.: Urticaria probably due to syphilitis .............................. 200
Sweet, E. A.: Ivy and sumac poisoning ............................................ 688
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweitzer, S. E.: Granuloma pyogenicum of lip</td>
<td>358</td>
</tr>
<tr>
<td>Sycosis barbae; H. C. Semon</td>
<td>321</td>
</tr>
<tr>
<td>vulgaris; Stillians</td>
<td>745</td>
</tr>
<tr>
<td>Syphilis, pigmentary; E. L. McEwen</td>
<td>612</td>
</tr>
<tr>
<td>Syphilis, action of syphilis on native complement; B. H. Shaw</td>
<td>449</td>
</tr>
<tr>
<td>allergy in syphilis of nervous system; Babonneix</td>
<td>67</td>
</tr>
<tr>
<td>and its serological significance; D. Kaplan</td>
<td>434</td>
</tr>
<tr>
<td>atrophic cirrhosis of liver with inherited syphilis; C. Bonorino Udaondo</td>
<td>586</td>
</tr>
<tr>
<td>and J. E. Carulla</td>
<td></td>
</tr>
<tr>
<td>carcinoma in syphilitic patient; B. Lapowski</td>
<td>330</td>
</tr>
<tr>
<td>causes of delayed union and nonunion in fractures of long bones; W. L. Estes</td>
<td>326</td>
</tr>
<tr>
<td>cerebrospinal fluid in syphilis; C. F. White and H. Barber</td>
<td>212</td>
</tr>
<tr>
<td>Charcot's knees (syphilis congenita); J. J. Rothwell</td>
<td>706</td>
</tr>
<tr>
<td>common diseases in British hospitals as seen in Sierra Leone; W. A. Young</td>
<td>319</td>
</tr>
<tr>
<td>complement fixation test in syphilis; C. H. Browning and E. L. Kennaway</td>
<td>206</td>
</tr>
<tr>
<td>congenital; J. F. Fraser</td>
<td>341</td>
</tr>
<tr>
<td>congenital, in orthopedic clinics; P. W. Roberts</td>
<td>210</td>
</tr>
<tr>
<td>congenital, pathology of; J. F. Fraser</td>
<td>491</td>
</tr>
<tr>
<td>congenital syphilis? syphilid post-erosive; M. Scheer</td>
<td>344</td>
</tr>
<tr>
<td>damaged goods; A. Piper</td>
<td>454</td>
</tr>
<tr>
<td>delaying early diagnosis of syphilis (chancre), dangers and how to avoid them; W. Abramowitz</td>
<td>212</td>
</tr>
<tr>
<td>diagnosis of late syphilis of central nervous system; C. Frothingham</td>
<td>74</td>
</tr>
<tr>
<td>diagnosis of primary syphilis by culture; F. W. Baeslack and W. E. Keane</td>
<td>582</td>
</tr>
<tr>
<td>early manifestations of syphilis of central nervous system in combatants; G. Pighini</td>
<td>583</td>
</tr>
<tr>
<td>early nervous syphilis after arsenobenzene; J. E. R. McDonagh</td>
<td>687</td>
</tr>
<tr>
<td>early neurosyphilis asymptomatica with report of observations; J. V. Klauder</td>
<td>209</td>
</tr>
<tr>
<td>hereditary and dystrophies; V. Huitinel and H. Stevenin</td>
<td>575</td>
</tr>
<tr>
<td>human versus guinea-pig complement in serum diagnosis of syphilis with special reference to methods employing human complement; J. A. Kolmer and A. M. Flick</td>
<td>204</td>
</tr>
<tr>
<td>incidence of, among white and colored troops as indicated by an analytical study of Wassermann results in over 10,000 cases; W. Levin</td>
<td>325</td>
</tr>
<tr>
<td>incidence of syphilis as manifested by routine Wassermann reaction on 2,925 hospital and dispensary medical cases; A. B. Day and W. McNitt</td>
<td>210</td>
</tr>
<tr>
<td>macular atrophy following syphilis; Zeisler</td>
<td>747</td>
</tr>
<tr>
<td>of bladder; L. Thompson</td>
<td>694</td>
</tr>
<tr>
<td>of great vessels; A. F. Tyler</td>
<td>695</td>
</tr>
<tr>
<td>of kidney, ureter and suprarenal; U. J. Wile</td>
<td>413</td>
</tr>
<tr>
<td>of liver; U. J. Wile</td>
<td>139</td>
</tr>
<tr>
<td>of liver, two unusual phases of hepatic syphilis; U. J. Wile</td>
<td>656</td>
</tr>
<tr>
<td>one aspect of syphilis as community problem; H. S. Newcomer, C. Ashbrooke, R. Richardson and P. O. Lewis</td>
<td>74</td>
</tr>
<tr>
<td>palmaris and leucoplakia of tongue and cheeks; B. Lapowski</td>
<td>335</td>
</tr>
<tr>
<td>pathologic study of lungs in 152 necropsy cases of syphilis; J. L. Carrera</td>
<td>451</td>
</tr>
<tr>
<td>preliminary report on syphilitic and arsenical jaundice; G. O. Scott</td>
<td>208</td>
</tr>
<tr>
<td>primary; S. F. Dudley</td>
<td>79</td>
</tr>
<tr>
<td>prognosis of syphilis in light of recent progress; S. Pollitzer</td>
<td>693</td>
</tr>
<tr>
<td>reinfection, Charing, 112; C. M. Williams</td>
<td>702</td>
</tr>
<tr>
<td>serologic cure in light of increasingly sensitive Wassermann tests; U. J. Wile and C. K. Halsey</td>
<td>68</td>
</tr>
<tr>
<td>tertiary syphilis of liver; H. L. Carretti</td>
<td>697</td>
</tr>
<tr>
<td>treatment of late syphilis; H. H. Hazen</td>
<td>211</td>
</tr>
<tr>
<td>treatment of syphilis of central nervous system; S. T. Nicholson</td>
<td>213</td>
</tr>
</tbody>
</table>
INDEX TO VOLUME 1

Syphilis—Continued

treatment of, with silver-salvarsan: Rille and Fruhwald.......................... 583
	tuberculo- verrucosa; B. Lapowski........................................... 346
	urticaria probably due to syphilis, clinical report; L. Hollander........... *55
	verraco-tuberculosa; B. Lapowski........................................... 339
	visceral syphilis; syphilis of stomach; U. J. Wile........................................*543

vitiligo and its relation to syphilis, acquired or hereditary; W. H. Brown

Dujardin and Von Haecke.................................................. 543

vitiligo and syphilis; an examination of evidence for syphilis of
vitiligo; J. E. Lane.................................................. 403

Syphilitic aortic insufficiency; J. C. Meakins.................................. 698

eruption resembling herpes; H. E. Michelson....................................... 359

keratoderma; Zeisler.................................................. 746

Syphilodermata after intensive treatment; Gilmour................................. 742

Syringoma, multiple benign cystic epithelioma and syringoma; F. Wise........ 357

Tabes, intravenous injection of potassium iodid in; F. J. Devota.................. 76

Taft, R.: Technic in radium treatment of keloid and other common skin
lesions.............................................................. 698

Talbot, G.: Experiments on destruction of lice and nits.......................... 450

Tanner, F. W.: Cultural studies on an infection of skin by endomycoses
albicans.............................................................. 365

Taussig, F. J.: Precancerous lesions of skin of vulva; leukoplakic vulvitis,
kraurosis, pruritus.................................................. 621

Taylor, H. D.: Studies in X-ray effects; destructive action on blood cells.. 74

Studies in X-ray effects; stimulative action on lymphocytes...................... 75

Theis, R. C.: Study of chemical composition of blood in cancer.................. 324

Thomas, M. M.: Studies in X-ray effects; stimulative action on lymphocytes
75

Thompson, L.: Gumma of breast............................................... 695

Syphilis of bladder.................................................. 694

Thomson, F.: Contact infection of chickenpox..................................... 77

Thrush; G. M. Olson.................................................. 359

Tinea cruris; G. H. Fox........................................................................ 224

method of treating tinea; Gleason.............................................. 581

unguicium; G. H. Fox.................................................. 722

Tongue, black (lingua nigra); Harris............................................... 93

"burning"; M. F. Engman.................................................. 137

eyearly diagnosis of cancer of tongue; M. Ferrand.................................... 207

geographical tongue; F. Wise.................................................. 735

geographical tongue (erythema migrans); B. F. Ochs and Feldman........... 219

gumma of tongue; M. B. Parounagian........................................... 456

gumma of tongue and epitheliuma; B. Lapowski.................................. 344

gummas of tongue: epitheliomatous degeneration; C. M. Williams............. 701

nevus of lower lip and lymphangiomia of tongue; B. W. Howell................... 696

syphilis palmaris and leukoplakia of tongue and cheeks; B. Lapowski......... 335

Tonsil, chancre on right tonsil; M. B. Parounagian.................................. 460

epitheliuma of tonsils, with syphilitic condition; M. B. Parounagian........ 458


Trichophytton, cultural characters of trichophytton bacilleanum cast., the cause
of pseudoptiriiasis capitis; A. Castellan........................................... 321

curriti; A. J. Chalmers and A. Marshall........................................... 320

rosaceum, two unusual cases of ringworm, one of them due to fungus
(trichophytton rosaceum) producing pink cultures; M. B. Hartzell..................*1

Trichophytosis, treatment of trichophytosis; M. Michael.......................... 691

Trimble, W. B.: Adenoma sebaceum............................................... 340

Chronic congestion of face: for diagnosis........................................ 466

Chronic erythema of face (for diagnosis).......................................... 699

Colloid milium.......................................................... 465. 700

Eczema of nipples.......................................................... 464
INDEX TO VOLUME 1

Varicella and herpes zoster; E. Feer........................................ 693
contact infection of chickenpox; F. Thomson......................... 77
Variot: Wrinkled senile skin in child of two............................. 455
Venereal diseases as we see them today; J. E. R. McDonagh........... 322
prophylaxis of; L. Le Clerc-Dandoy.................................... 213
Veneroid ulcer; G. M. Olson.............................................*279
Verrucae. case illustrating value of radium in verrucae planae; D. W.
Montgomery and G. D. Culver........................................ 697
cure of multiple warts on face; C. Ind.................................. 449
multiple; L. Oulmann.................................................. 357
Vessey, C. A.: Unusually large primary epithelioma of ocular conjunctiva 697
Vitiligo; Hartzell .................................................... 101
and its relation to syphilis, acquired or hereditary; W. H. Brown,
Dujardin and Von Haecke................................................ 213
and syphilis: an examination of evidence for syphilitic origin of vitiligo;
J. E. Lane.......................................................... 69
Vulva, precancerous lesions of skin of vulva; leukoplakic vulvitis, kraurosis,
pruritus; F. J. Taussig............................................*621
Vulvitis, erosive; T. L. Driscoll.......................................*170
Wallhauser, H. J. F.: Case for diagnosis................................. 215
Wander, W. G.: Camphor oil tumors...................................*304
Ward, E.: Circular ulcer of leg caused by administration of bromids... 214
Warts: See Verrucae.
Wassermann reaction, agreement in results of; H. C. Solomon........... 692
criticism of its reliability; C. F. White, A. T. McWhirter and H. Barber 78
delayed negative; G. McConnell........................................ 326
icebox fixation method in performance of Wassermann reaction; R. G.
Owen and F. A. Martin................................................ 587
incidence of syphilis among white and colored troops as indicated by an
analytical study of Wassermann results in over 10,000 cases; W. Levin
occurrence of variations in results of successive tests; clinical applica-
tion of data; C. H. Browning and E. L. Kennaway..................... 79
relation of aortic insufficiency to Wassermann test; J. E. Benjamin and
S. J. Havre.......................................................... 325
serologic cure in light of increasingly sensitive Wassermann tests;
U. J. Wile and C. K. Halsey......................................... 68
tyranny of Wassermann test: benevolent despotism; W. J. Highman.. 194
Waugh, J. P.: Molluscum contagiosum.................................. 593
Photograph of oriental sore............................................. 478
von Recklinghausen's disease........................................... 609
Webber, R.: Lupus of upper air passages................................ 451
Weidman, F. D.: Clearing house for cutaneous fungi and blastomyces.. 683
Necropsy findings in case of congenital scleroderma and sclerodactyli......*375
Weinberg, M. M.: Gaseous gangrene in typhoid.......................... 581
Weiss, C.: Laboratory and clinical studies bearing on causes of reactions
following intravenous injections of arsphenamin and neo-arsphenamin.*235
Weiss, L.: Purpura annularis telangiectodes (Majocchi's disease)........*520
Weiss, R. S.: Monilia candida infection of mouth; Moeller's disease, pneu-
mococcus infection of tongue, etc.......................................*119
Welfeld, J.: Case for diagnosis.......................................... 473
Western, G. T.: Vaccine therapy in diseases of skin.................... 209
White, C. F.: Cerebrospinal fluid in syphilis............................. 212
Wassermann test; criticism of its reliability............................ 78
Whitehouse, H. H.: Ichthyotic conditions with erythema (for diagnosis) 724
Whitfield, A.: Vaccine therapy in diseases of skin...................... 211
Whitfield's ointment................................................... 684
Whitfield's ointment; A. Whitfield....................................... 684
Wile, U. J.: Infective condyloma of mouth................................. 97
Serologic cure in light of increasingly sensitive Wassermann tests...... 68
Syphilis of kidney, ureter and suprarenal.................................*413
<table>
<thead>
<tr>
<th>Index Entry</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wile, U. J.—Continued</td>
<td></td>
</tr>
<tr>
<td>Syphilis of liver</td>
<td>*139</td>
</tr>
<tr>
<td>Two unusual phases of hepatic syphilis</td>
<td>656</td>
</tr>
<tr>
<td>Visceral syphilis; syphilis of stomach</td>
<td>543</td>
</tr>
<tr>
<td>Williams, C. M: Gummas of tongue; epitheliomatous degeneration</td>
<td>701</td>
</tr>
<tr>
<td>Syphilitic reinfection</td>
<td>702</td>
</tr>
<tr>
<td>Wiltshire, H.: Hyperkeratosis of hair follicles in scurvy</td>
<td>447</td>
</tr>
<tr>
<td>Winfield, J. M.: Acute psoriasis and zoster</td>
<td>728</td>
</tr>
<tr>
<td>Wise, F.: Acne or papulo-necrotic tuberculid</td>
<td>741</td>
</tr>
<tr>
<td>Acro-dermatitis chronica atrophicans</td>
<td>115</td>
</tr>
<tr>
<td>Bromid eruption</td>
<td>709</td>
</tr>
<tr>
<td>Case for diagnosis</td>
<td>112, 223, 346, 467</td>
</tr>
<tr>
<td>Case for diagnosis (leprosy or lupus erythematosus)</td>
<td>228</td>
</tr>
<tr>
<td>Cheilitis glandularis</td>
<td>468</td>
</tr>
<tr>
<td>Dermatotublasia (so-called picker's disease)</td>
<td>222</td>
</tr>
<tr>
<td>Epithelioma</td>
<td>739</td>
</tr>
<tr>
<td>Erythema perstans</td>
<td>739</td>
</tr>
<tr>
<td>Extensive keloidal scarring after burn</td>
<td>730</td>
</tr>
<tr>
<td>Folliculitis decalvans with seborrhic eczema</td>
<td>468</td>
</tr>
<tr>
<td>Generalized lichen planus</td>
<td>467</td>
</tr>
<tr>
<td>Geographical tongue</td>
<td>735</td>
</tr>
<tr>
<td>Glossitis</td>
<td>726</td>
</tr>
<tr>
<td>Lichen planus hypertrophicus with follicular lesions</td>
<td>222</td>
</tr>
<tr>
<td>Lupus erythematosus disseminatus</td>
<td>226</td>
</tr>
<tr>
<td>Lupus vulgaris</td>
<td>229</td>
</tr>
<tr>
<td>Lymphangioma circumscriptum</td>
<td>228</td>
</tr>
<tr>
<td>Multiple benign cystic epithelioma and syringoma</td>
<td>357</td>
</tr>
<tr>
<td>Neurodermite</td>
<td>736</td>
</tr>
<tr>
<td>Peculiar scarring in North African negro</td>
<td>222</td>
</tr>
<tr>
<td>Pityriasis lichenoides chronica</td>
<td>352</td>
</tr>
<tr>
<td>Tuberculosis cutis</td>
<td>229</td>
</tr>
<tr>
<td>Urticaria pigmentosa</td>
<td>223</td>
</tr>
<tr>
<td>Xeroderma pigmentosa</td>
<td>223</td>
</tr>
<tr>
<td>Winfield, J. M.: Erythema perstans</td>
<td>727</td>
</tr>
<tr>
<td>Wislocki, G. B.: Old age in relation to cell-overgrowth and cancer</td>
<td>67</td>
</tr>
<tr>
<td>Witherbee, W. D.: Practical method of roentgen-ray dosage without aid of radiometer</td>
<td>*558</td>
</tr>
<tr>
<td>Studies in X-ray effects; destructive action on blood cells</td>
<td>74</td>
</tr>
<tr>
<td>Studies in X-ray effects; direct action of X-rays on transplantable cancers of mice</td>
<td>76</td>
</tr>
<tr>
<td>Studies on X-ray effects; stimulative action on lymphocytes</td>
<td>75</td>
</tr>
<tr>
<td>Withers, S. M.: Chronic papular itching eruption of axillae and pubes (Fordyce)</td>
<td>*8</td>
</tr>
<tr>
<td>Woglom, W. H.: Size of spleen in immune mice</td>
<td>72</td>
</tr>
<tr>
<td>&quot;Virulence or adaptation&quot;</td>
<td>71</td>
</tr>
<tr>
<td>&quot;Virulence or adaptation&quot;</td>
<td>70</td>
</tr>
<tr>
<td>Wolf; Adenoma sebacem</td>
<td>329</td>
</tr>
<tr>
<td>Wood, F. C.: Effect of X-ray on tumors</td>
<td>71</td>
</tr>
<tr>
<td>Wright, L. T.: Filarial elephantiasis</td>
<td>336</td>
</tr>
<tr>
<td>Wrinkled senile skin in child of two; Variot and Catillau</td>
<td>455</td>
</tr>
<tr>
<td>&quot;skin, (gerodermie infantile); A. Souques&quot;</td>
<td>584</td>
</tr>
<tr>
<td>Würdemann, H. V.: Syphilitic neuroretinitis</td>
<td>585</td>
</tr>
<tr>
<td>Xanthoma diabetorum; Schamberg</td>
<td>98</td>
</tr>
<tr>
<td>multiple, in boy; H. G. Adamson</td>
<td>695</td>
</tr>
<tr>
<td>Xeroderma pigmentosa; Harris, 90; F. Wise</td>
<td>223</td>
</tr>
<tr>
<td>pigmentosum acquisita; Hartzell</td>
<td>97</td>
</tr>
<tr>
<td>Yagle, E. M.: Hemolytic activity of solutions of arsphenamin and neo-arsphenamin</td>
<td>690</td>
</tr>
<tr>
<td>Young, W. A.: Common diseases in British hospitals as seen in Sierra Leone</td>
<td>319</td>
</tr>
<tr>
<td>Index Entry</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Devergie's disease</td>
<td>93</td>
</tr>
<tr>
<td>Infectious eczematoid dermatitis</td>
<td>476</td>
</tr>
<tr>
<td>Majocchi's disease</td>
<td>613</td>
</tr>
<tr>
<td>Parapsoriasis</td>
<td>610</td>
</tr>
<tr>
<td>Syphilitic keratoderma</td>
<td>746</td>
</tr>
<tr>
<td>Zeisler, E. P.: Acne</td>
<td>483</td>
</tr>
<tr>
<td>Arsphenamin eruption</td>
<td>746</td>
</tr>
<tr>
<td>Case for diagnosis</td>
<td>96</td>
</tr>
<tr>
<td>Epidermophyton infection</td>
<td>599</td>
</tr>
<tr>
<td>Macular atrophy following syphilis</td>
<td>747</td>
</tr>
<tr>
<td>Zoster, acute psoriasis and zoster; J. M. Winfield</td>
<td>28</td>
</tr>
<tr>
<td>Zona, motor paralysis in zona; E. Baudouin and P. Lantuejoul</td>
<td>323</td>
</tr>
</tbody>
</table>